Programme Specification: Undergraduate

For students starting in Academic Year 2024/25

1. Course Summary

Names of programme and award title(s)	BSc (Hons) Environmental Science BSc (Hons) Environmental Science with International Year (see Annex for details) BSc (Hons) Environmental Science with Work Placement Year (see Annex for details)
Award type	Single Honours
Mode of study	Full-time
Framework of Higher Education Qualification (FHEQ) level of final award	Level 6
Normal length of the programme	3 years; 4 years with either the International Year or Placement Year between years 2 and 3
Maximum period of registration	The normal length as specified above plus 3 years
Location of study	Keele Campus
Accreditation (if applicable)	This subject/programme is accredited by: the Institution of Environmental Sciences (IES) and by the Institute of Environmental Management and Assessment (IEMA). For further details see the section on Accreditation.
Regulator	Office for Students (OfS)
Tuition Fees	**UK students:** Fee for 2024/25 is £9,250* **International students:** Fee for 2024/25 is £20,700** The fee for the international year abroad is calculated at 15% of the standard year fee The fee for the work placement year is calculated at 20% of the standard year fee

How this information might change: *Please read the important information at http://www.keele.ac.uk/student-agreement/. This explains how and why we may need to make changes to the information provided in this document and to help you understand how we will communicate with you if this happens.*

** These fees are regulated by Government. We reserve the right to increase fees in subsequent years of study in response to changes in government policy and/or changes to the law. If permitted by such change in policy or law, we may increase your fees by an inflationary amount or such other measure as required by government policy or the law. Please refer to the accompanying Student Terms & Conditions. Further information on fees can be found at http://www.keele.ac.uk/studentfunding/tuitionfees/*

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2. What is a Single Honours programme?

The Single Honours programme described in this document allows you to focus more or less exclusively on this subject. In keeping with Keele's commitment to breadth in the curriculum, the programme also gives you the opportunity to take some modules in other disciplines and in modern foreign languages as part of a 360-credit Honours degree. Thus it enables you to gain, and be able to demonstrate, a distinctive range of graduate attributes.

Environmental Science at Keele is offered as a three-year single honours degree programme or as a four-year, with work placement year or with International Year, degree programme. All pathways will lead to a qualification of BSc Environmental Science. Students taking the work placement year will gain the qualification of BSc Environmental Science *with work placement,* and students taking the international year will gain the qualification of BSc Environmental Science *with International Year*.

3. Overview of the Programme

The BSc (Hons) degree programme in Environmental Science provides you with a solid grounding in each of the key natural science disciplines (Biology, Ecology, Chemistry, and Earth Science) that underpin this interdisciplinary and highly topical subject area. It aims to provide students with the scientific skills and expertise required to tackle many of the world's major environmental and societal problems such as climate change, food security, water resources, pollution and conservation. The course at Keele draws on the expertise of scientists within the disciplines of life sciences, chemical sciences and earth sciences to emphasise the role and importance of scientific understanding and practical skills in the analysis and management of environmental problems. The first year gives students a sound basis and understanding of the core sciences underpinning the field of environmental science (biological sciences, chemical sciences, earth sciences); whilst in later years students can choose to specialize or to maintain a broad environmental science portfolio, while maintaining a strong basis in the skills and techniques of the environmental scientist. This degree structure is designed to cater for those students with general interests in the environment and environmental issues, and for those with clear environmental science career aspirations. Environmental Science is an exciting and relevant subject for today's society with ever-increasing employment prospects and career opportunities.

4. Aims of the programme

The broad aims of the programme are to enable you to:

- Develop a sound scientific understanding of the core natural science disciplines (Biology, Ecology, Chemistry, Geology) that underpin the field of environmental science, irrespective of students' scientific background prior to studying at Keele University, and to be able to apply these to environmental problems;
- Be able to integrate scientific knowledge, and an awareness of social, economic and ethical issues, to address the management of the environment and tackle environmental problems such as climate change, water pollution, water resource scarcity, atmospheric pollution;
- Gain a wide-range of field and laboratory skills, including the ability to carry out independent research, relevant to the investigation of environmental issues;
- Develop to a high professional standard, employability skills in report writing, information technology, numeracy, oral presentation, team work and independent work, problem solving and searching and evaluating literature and related-resources.

5. What you will learn

The intended learning outcomes of the programme (what students should know, understand and be able to do at the end of the programme), can be described under the following headings:

- Subject knowledge and understanding
- Subject specific skills
- Key or transferable skills (including employability skills)

Subject knowledge and understanding

The nature of the course and the wide choice of options available emphasises the inter-disciplinary nature of the degree programme. Core modules aim to provide a grounding in the natural sciences that underpin the field of environmental science, and also stress the interdisciplinary interaction of different facets of sciences in the environment, whilst the range of option modules available enables the individual student to focus their interests, or to explore the interaction between the natural and social sciences in the understanding of current

environmental issues. Individual module specifications should be consulted for specific information on knowledge and understanding obtained from specific modules within the degree programme.

Core natural science modules will allow successful students to demonstrate knowledge and understanding of:

- the application of the geological, biological, ecological and chemical sciences to environmental science
- fundamental principles of chemistry relevant to the Environmental Sciences
- the application of fundamental chemical principles to a range of applications in environmental chemistry
- the internal structure and composition of the Earth and its development since the formation of the Solar System
- the theory of plate tectonics, its manifestation on the Earth's current surface, and the consequences of its operation in the geological past
- minerals and the three major subdivisions of rocks in terms of how they are formed and how their properties relate to a variety of environmental science issues
- how rocks and geological events may be dated, both relatively and in terms of the absolute time scale
- the ways in which populations and communities function and interact
- basic theories and concepts in ecology and conservation
- the ecology and environmental issues of a specified ecosystem
- the impact of human activity, particularly resource exploitation on the Earth's surface and near surface environments (using well-established principles and examples from the forefront of the discipline)
- pressures and threats on terrestrial and aquatic ecosystems as well as the Earth's climate that are related to human activity
- possible options for alternative solutions to environmental problems and their implications for nature and society
- environmental management issues in a range of different environments
- the process and application of a range of analytical techniques relevant to the analysis of the composition of different environmental media (including soil, water, vegetation)
- the major components of the Earth's physical-geographic systems, including patterns of variation in the global environment and connections between global systems and local landscapes
- the different types of geographical evidence in order to explain phenomena of the physical environment
- the essential contributions of geoscience to the economic, environmental and cultural needs of Society
- sustainable chemistry within a global context including the use of chemistry in human processes and the associated environmental implications
- the environmental and social responsibilities of organisations including the benefits to businesses to 'green' their operation and ways this can be achieved
- a key multidisciplinary issue/problem reflecting the student's interests at the forefront of Environmental Science

Subject specific skills

The acquisition of subject specific skills is an important part of the Environmental Science programme. Individual module specifications should be consulted for information on subject-specific skills covered within individual modules.

Core natural science modules will allow successful students to demonstrate their ability to:

- carry out and record practical chemistry experiments relevant to the environmental sciences, including the analysis and interpretation of data generated
- describe, explain and apply principles of environmental chemistry and sustainability to investigate and critically appraise case studies, solve problems and interpret data
- observe, collect and analyse data on animal behaviour
- recognise minerals in hand specimen and thin section using a hand lens, petrological microscope and related techniques.
- use techniques for the acquisition, interpretation, analysis and visualisation of geoscience data (e.g. geological maps).
- show knowledge and understanding of geological field skills, and be able to synthesise their observations and interpretations within a geological report.
- demonstrate competency in a range of skills necessary for successful study of environmental science in higher education (e.g. numeracy, IT, visual, oral and written communication)
- demonstrate familiarity with a range of ecological and geochemical laboratory and field techniques
- collect, synthesize, evaluate and present environmental (geochemical, ecological, geological) data
- perform calculations involving simple population dynamics models
- work safely in a scientific laboratory, with awareness of standard methods and procedures and with due regard for risk assessment and relevant health and safety regulations
- apply relevant quantitative techniques to the analysis of environmental problems
- manipulate, analyse and interpret data sets relating to an area of environmental science
- design an achievable piece of research applicable to the field of environmental science, showing an ability to synthesize and interrogate the research literature and evaluate and select appropriate techniques

- integrate biological, geological and chemical aspects of field (and laboratory) study by preparing a report/presentation on investigations of several habitats
- evaluate solutions to problems of managing a disturbed/degraded area
- evaluate possible options for alternative solutions to environmental problems
- demonstrate familiarity with a range of field and laboratory techniques appropriate to Environmental Science investigation
- demonstrate technical appreciation of the process and application of a range of analytical techniques relevant to the analysis of the composition of different environmental media
- undertake effective fieldwork with due regard for safety, risk assessment, rights of access, relevant health and safety regulations and sensitivity to the impact of investigations on the environment
- apply their own knowledge, skills and experience to an aspect of current Environmental Science research (through the use of established, analytical scientific methods, literature review, data collection and interpretation etc.) and to have developed the skills necessary to exercise own independent analysis, initiative and self-learning

Key or transferable skills (including employability skills)

Successful students will be able to:

- recognise and use subject-specific theories, concepts and principles to make reasoned decisions and solve problems
- analyse, synthesise and summarise data and information critically, including prior research
- collect and integrate several lines of evidence to formulate and test hypotheses, and make critical judgements
- apply knowledge and understanding to address familiar and unfamiliar problems
- assess the merits of contrasting theories, explanations and policies
- recognise the moral and ethical issues of investigations and appreciate the need for professional codes of conduct
- develop an adaptable and flexible approach to study and work
- identify and work towards targets for personal, academic and career development
- take responsibility for their own learning and develop a habit of reflection upon that learning
- develop and sustain effective approaches to learning and study, including time management, flexibility, creativity and intellectual integrity
- communicate effectively to a variety of audiences in written, verbal and graphical forms
- work with numerical data using appropriate qualitative and quantitative techniques, as well as computer software packages
- work effectively with a variety of types of information technology to analyse and present information and data, as well as solve numerical problems
- use the internet as a means of communication and a source of information
- demonstrate competence in spatial awareness and observation
- conduct field and laboratory studies
- reference work in an appropriate manner
- work with information handling and retrieval systems using data from a wide range of sources
- work effectively both as an individual and as part of a group or team, recognising and respecting the viewpoints of others
- sustain motivation to work towards a goal over an extended period of time
- recognise responsibilities as a local, national and international citizen

In addition, students taking the four-year 'with work placement' will develop additional employability skills and will be able to:

- evaluate their own employability skills (via a SWOT Analysis) and develop their own intended learning outcomes (ILOs)
- develop, through practice in the work place, the work-related skills identified through their SWOT analysis and ILOs
- apply academic theory learnt as part of the taught degree to real situations in the work place
- critically evaluate their learning from the work placement
- explain how the professional environmental sector operates and what skills are needed to develop their career

The additional intended learning outcomes associated with the International Year are included in the Annex.

The Keele Graduate Attributes

The Keele Graduate Attributes are the qualities (skills, values and mindsets) which you will have the opportunity to develop during your time at Keele through both the formal curriculum and also through co- and extra-curricular activities (e.g., work experience, and engagement with the wider University community such as acting as ambassadors, volunteering, peer mentoring, student representation, membership and leadership of clubs and

societies). Our Graduate Attributes consist of four themes: **academic expertise, professional skills, personal effectiveness, and social and ethical awareness.** You will have opportunities to engage actively with the range of attributes throughout your time at Keele: through your academic studies, through self-assessing your own strengths, weaknesses, and development needs, and by setting personal development goals. You will have opportunities to discuss your progress in developing graduate attributes with, for example, Academic Mentors, to prepare for your future career and lives beyond Keele.

6. How is the programme taught?

Learning and teaching methods used on the programme vary according to the subject matter and level of the module. They include the following:

- Lectures
- Tutorials, seminars and workshops
- Problem-solving classes
- Practical and laboratory classes
- Field courses
- Directed reading
- Group presentations and linked discussion
- Use of e-learning/the Keele Learning Environment (KLE)

Apart from these formal activities, students are also provided with regular opportunities to talk through particular areas of difficulty, and any special learning needs they may have, with their Academic Mentors or module lecturers on a one-to-one basis.

These learning and teaching methods enable students to achieve the learning outcomes of the programme in a variety of ways.

7. Teaching Staff

As Environmental Science is such an interdisciplinary subject, staff that deliver the Environmental Science Programme come from the Schools of Geography, Geology and the Environment, Chemical and Physical Sciences, and Life Sciences, with option modules from other Schools.

There is a strong emphasis throughout the Environmental Science programme on enhancing the student learning experience, as evidenced by the number of environmental staff who hold teaching qualifications, such as the MA in Learning and Teaching in Higher Education, who are Fellows, Senior Fellows and Principals Fellows of the Higher Education Academy (HEA) and who have won awards for their excellence in teaching (e.g., Keele Teaching Excellence Awards, National Teaching Fellowships). Recent curriculum developments within our environmental programmes have been supported by external funds from the Higher Education Academy (HEA) Geography, Earth and Environmental Sciences (GEES) subject centre, the HEA Education for Sustainable Development project and the Higher Education Funding Council for England. Several staff are actively involved with pedagogic research that seeks to identify ways in which the student learning experience within the environmental sciences can be enhanced.

The University will attempt to minimise changes to our core teaching teams, however, delivery of the programme depends on having a sufficient number of staff with the relevant expertise to ensure that the programme is taught to the appropriate academic standard.

Staff turnover, for example where key members of staff leave, fall ill or go on research leave, may result in changes to the programme's content. The University will endeavour to ensure that any impact on students is limited if such changes occur.

8. What is the structure of the Programme?

The academic year runs from September to June and is divided into two semesters. The number of weeks of teaching will vary from programme to programme, but you can generally expect to attend scheduled teaching sessions between the end of September and mid-December, and from mid-January to the end of April. Our degree courses are organised into modules. Each module is usually a self-contained unit of study and each is usually assessed separately with the award of credits on the basis of 1 credit = 10 hours of student effort. An outline of the structure of the programme is provided in the tables below.

There are two types of module delivered as part of your programme. They are:

- Compulsory modules - a module that you are required to study on this course;
- Optional modules - these allow you some limited choice of what to study from a list of modules.

Optional modules include Global Challenge Pathways - a choice of modules from different subject areas that count towards the overall credit requirement but not the number of subject-related credits.

Global Challenge Pathways can either be taken as one 15-credit module at Levels 4, 5 and 6, or one 15-credit module at Levels 5 and 6 (except for the TESOL pathway). **Information about Global Challenge Pathways can be found after the module lists for Level 6.**

Language modules

Students on this programme will also be able to study language modules offered by the Language Centre, as part of a Global Challenge Pathway. You can enrol on either a Modern Language module [more information available at this link] (Semester 1 only) Teaching English to Speakers of Other Languages (TESOL) (Semesters 1 and 2) module (ENL-10053), or the Intercultural Explorer pathway (ENL-10057). See the Global Challenges Pathway information under the module lists for more details.

If you choose the Language Specialist pathway, you will automatically be enrolled on a Semester 2 Modern Language module as a continuation of your language of choice as a faculty funded 'additional' module. Undertaking a Modern Languages module in Semester 2 is compulsory if you wish to continue to the Language Specialist Global Challenge Pathway the following academic year.

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For further information on the content of modules currently offered, please visit: https://www.keele.ac.uk/recordsandexams/modulecatalogue/

A summary of the credit requirements per year is as follows.

Year	Compulsory	Optional	
		Min	Max
Level 4	105	15	15
Level 5	75	45	45
Level 6	30	90	90

Module Lists

Level 4

Compulsory modules	Module Code	Credits	Period
Environmental Chemistry	ESC-10095	15	Semester 1
Planet Earth - Our Environment	ESC-10096	15	Semester 1
Studying the Environment	ESC-10061	15	Semester 1-2
Academic, Fieldwork and Employability Skills	ESC-10094	30	Semester 1-2
Ecology and Plant Biology	LSC-10083	30	Semester 2

Optional modules	Module Code	Credits	Period
People and the Environment	ESC-10041	15	Semester 2
Sustainability Policy and Practice	ESC-10097	15	Semester 2

Compulsory field courses at Level 4

Please note: field course provision may change depending on factors such as staff availability, staff changes, staff expertise, costs,
student numbers, and other factors outside of our control (earthquakes, volcanic eruptions, disease outbreaks etc.). Locations of 'local area' field days change on a year by year basis.

Module	Typical period	Field course details
ESC-10094 Academic, Fieldwork and Employability Skills	Semester 2, Easter vacation	Typically includes fieldwork of 4-6 days in which students apply field approaches appropriate to their discipline.

NB: Global Challenge Pathways (GCPs) - students have the option of taking a Global Challenge Pathway, which can either be taken as one 15-credit module at Levels 4, 5 and 6, or one 15-credit module at Levels 5 and 6 (except for the TESOL pathway). Information on GCPs is shown under the Level 6 modules below.

Level 5

Compulsory modules	Module Code	Credits	Period
Human Impact on the Environment, scientific perspectives	ESC-20017	15	Semester 1
Environmental Impact Assessment: practical geographical and environmental skills	ESC-20108	15	Semester 1
Geographic Information Science and Remote Sensing	ESC-20132	15	Semester 1
Environmental Analytical Methods	ESC-20032	15	Semester 2
Geographical and Environmental Field Skills	ESC-20106	15	Semester 2

Optional modules	Module Code	Credits	Period
Palaeoclimatology and Quaternary Studies	ESC-20036	15	Semester 1
Employability Training: Engaging with the Workplace	ESC-20092	15	Semester 1-2
Geoscience and Society	ESC-20037	15	Semester 2
Water in the Environment	ESC-20100	15	Semester 2

Compulsory field courses at Level 5

Please note: field course provision may change depending on factors such as staff availability, staff changes, staff expertise, costs,
student numbers, and other factors outside of our control (earthquakes, volcanic eruptions, disease outbreaks etc.). Locations of 'local area' field days change on a year by year basis.

Module	Typical period	Field course details
ESC-20106 Geographical and Environmental Field Skills	Semester 2, Easter vacation	Residential field course of typically 6-8 days.

Level 6

Compulsory modules	Module Code	Credits	Period
Dissertation	ESC-30047	30	Semester 1-2

Optional modules	Module Code	Credits	Period
Global Environmental Change	ESC-30018	15	Semester 1
Clean Technology	ESC-30040	15	Semester 1
Applied GIS	ESC-30044	15	Semester 1
Ecotoxicology and Risk Assessment	ESC-30056	15	Semester 1
Extinction!	ESC-30106	15	Semester 1
Insect Ecology and Pest Management	LSC-30070	15	Semester 1
Advanced Environmental Field Skills	ESC-30110	30	Semester 1-2
Hydrological and Engineering Geology	ESC-30022	15	Semester 2
Coastal Environments	ESC-30027	15	Semester 2
Blue Economy: sustainable futures with an ocean focus	ESC-30108	15	Semester 2
Plant Science and Sustainability	LSC-30076	15	Semester 2

Level 6 Module Rules

At least 60 credits must come from the following list of modules:

- ESC-30056
- ESC-30110 (30 credits)
- LSC-30070
- LSC-30076
- ESC-30018

Field courses: The field courses undertaken during the third year will depend on the modules chosen. It should be noted that for many students their Dissertation work is likely to include a significant amount of fieldwork.

Global Challenge Pathways (GCPs)

Students have the option of taking a Global Challenge Pathway, which includes one 15-credit module at Levels 4, 5 and 6, or one 15-credit module at Levels 5 and 6. Students who started a Global Challenge Pathway at Level 4 will continue with the same pathway at Level 5. Students joining Global Challenge Pathways at Level 5 can join any pathway (except TESOL). Students at Level 6 will continue with the same Global Challenge Pathway they studied at Levels 4 and/or Level 5.

Global Challenge Pathways offer students the chance to fulfil an exciting, engaging route of interdisciplinary study. Choosing a pathway, students will be presented with a global issue or 'challenge' which directly relates to societal issues, needs and debates. They will be invited to take part in academic and external facing projects which address these issues, within an interdisciplinary community of students and staff. Students completing a Global Challenge Pathway will receive recognition on their degree certificate.

Digital Futures	The Digital Futures pathway offers you the opportunity to take an active role in current debates, cutting-edge research, and projects with external partners, addressing both the exciting potential and the challenges of disruptive digital transformation across all spheres of life. Part of a diverse and interdisciplinary pathway community, you will engage in exciting, impactful collaborative project work in innovative formats on areas that matter most to you. Engaged in real-world scenarios as digital citizens, you will expand, deepen, and mobilise knowledge and skills to drive inclusive, empowering, and sustainable change at local and global levels. **Level 4 Module**: **A digital life: challenges and opportunities (GCP-10005)** **Level 5 Module: Digital World - People, Spaces, and Data (GCP-20005)** **Level 6 Module: Digital Citizenship and Sustainable Futures (GCP-30005)**
Climate Change & Sustainability	Through the Climate Change & Sustainability pathway you will develop the skills, understanding and drive to become agents of change to tackle climate change and wider sustainability challenges. You will hear from international partners to learn about climate change and sustainability in different international contexts; lead your own projects to drive real change in your communities; and be part of educating and supporting others to help achieve a more sustainable future. **Level 4 Module: Climate Change and Sustainable Futures: Global Perspectives (GCP-10009)** **Level 5 Module: Climate Change and Sustainability: Action and Activism (GCP-20009)** **Level 6 Module: Skills for Sustainability (GCP-30009)**
Social Justice	The Social Justice pathway is based upon a transformative methodology which centres the student's role as 'agents of change' to reflect upon decolonising and feminist, perspectives on social justice, to forge critical outputs to transform the Sustainable Development Goals. You will develop research and engagement skills with local, national, and international partners from Universities, NGOs, International Human Rights frameworks. You will engage with key societal challenges focused upon the Sustainable Development Goals, to develop an intersectional response from identity-based perspectives on race, gender, sexualities and disabilities. The pathway will allow you to monitor and critically evaluate policies and human rights treaties, and produce and disseminate digitally fluent, international and sustainable project findings. **Level 4 Module**: **Reflections on Social Injustices, Past and Present (GCP-10003)** **Level 5 Module: Strategic Interventions for Social Justice (GCP-20003)** **Level 6 Module: Transforming Social Justice; Global Perspectives (GCP-30003)**

Enterprise & the Future of Work	In order to meet the challenges set out in the UN's Sustainable Development Goals we need to understand the power of enterprise and prepare for the future contexts of work, creativity and disruption. By providing you with the skills, knowledge and understanding of global challenges this pathway will prepare you to be part of future-facing solutions. This module will support you in developing creative, original thinking, allowing you to collaborate on projects that persuade and effect change, setting you up to thrive in future environments of work and innovation. **Level 4 Module: Enterprise and the Future of Work (GCP-10007)** **Level 5 Module: Enterprise and the Future of Work: Collaborate to Innovate (GCP-20007)** **Level 6 Module: Enterprise and the Future of Work: Designing Change (GCP-30007)**
Global Health Challenges	By taking the global health challenge pathway you will develop solutions to improve the health and quality of life for particular people and communities, engaging with these groups to co-design interventions. This pathway will provide you with skills that go beyond a focus on health and will allow you to develop your ability to work in a team and lead change in society. The knowledge, skills and work experience will complement your core degree and enhance your career opportunities and graduate aspirations. **Level 4 Module: Key concepts and challenges in global health (GCP-10001)** **Level 5 Module: Using Evidence to Improve Global Health (GCP-20001)** **Level 6 Module: Working to Improve Global Health (GCP-30001)**

Languages & Intercultural Awareness	Communication within and across cultures is inseparable from language, and development of intercultural awareness can enable you to actively contribute to the shaping of an international future. The Language and Intercultural Awareness pathway allows you to engage in genuine interdisciplinary and international exchange and to understand and explore the link between language, culture and communication. Each of the strands we offer provides you with skills and direct experience for active engagement in working to face global challenges. **The Language Specialist**: Become a specialist in one of our languages and graduate with a degree title that includes '... with competency in (Language)' or '... with advanced competency in (Language)'. **The Language Taster:** Explore a new language every year. **The Certificate in TESOL** (Teaching English to Speakers of Other Languages): ***(NB: only available if starting from Level 4)*** Enhance your undergraduate degree by studying the Trinity College Certificate in Teaching English to Speakers of Other Languages (TESOL). As an internationally recognised qualification, you can teach around the world, enabling you to travel whilst helping people develop their English Language Skills. You will also develop many transferable skills which will enhance your future employability. **The Intercultural Explorer:** Through an interdisciplinary understanding of intercultural communication - as both an academic discipline and as a tool to promote and engage in global activity, you will explore the concept of culture. Module content and assessments allow you to examine in-depth the role of both culture and language in, for example, the UN sustainability goals. **Modules available:** **The Language Specialist:** Any Semester 1 Language Module (the level at which you enter will be determined by your previous language learning experiences). **The Language Taster:** Any Semester 1 Language Module (the level at which you enter will be determined by your previous language learning experiences) **The Certificate in TESOL (NB: only available if starting from Level 4):** ENL-10053 TESOL 1 ENL-20007 TESOL 2 ENL-30009 TESOL 3 **The Intercultural Explorer:** ENL-10057 The stories we live by ENL-20009 Who do you think you are?

Information on Global Challenge Pathways can be found here:
https://www.keele.ac.uk/study/undergraduate/globalchallengepathways/

Learning Outcomes

The table below sets out what students learn in the programme and the modules in which that learning takes place. Details of how learning outcomes are assessed through these modules can be found in module specifications.

Subject Knowledge and Understanding	
Learning Outcome	**Module in which this is delivered**
the application of the earth-, biological and chemical sciences to environmental science;	All modules
fundamental principles of chemistry relevant to the Environmental Sciences; the application of fundamental chemical principles to a range of applications in environmental chemistry	Environmental Chemistry - ESC-10095 Environmental Analytical Methods - ESC-20032
the internal structure and composition of the Earth and its development since the formation of the Solar System and the evolution of Life on Earth the theory of plate tectonics, its manifestation on the Earth's current surface, and the consequences of its operation in the geological past; the three major subdivisions of rocks in terms of how they are formed and how their properties relate to environmental science issues; how rocks and geological events may be dated, both relatively and in terms of the absolute time scale;	Planet Earth - Our Environment - ESC-10096 Extinction! - ESC-30106
the impact of human activity, particularly resource exploitation on the Earth's surface and near surface environments (using well-established principles and examples from the forefront of the discipline);	Planet Earth - Our Environment - ESC-10096 Human Impact on the Environment, scientific perspectives - ESC-20017 Environmental Analytical Methods - ESC-20032
integrate and apply knowledge of the biological, geological, chemical and social aspects of the fields of environmental science and sustainability; demonstrate understanding of the ideological and philosophical underpinning of different approaches to environmental and sustainability research;	Geographical and Environmental Field Skills - ESC-20106
pressures and threats on terrestrial and aquatic ecosystems as well as the Earth's climate that are related to human activity;	Environmental Analytical Methods - ESC-20032 Human Impact on the Environment, scientific perspectives - ESC-20017
possible options for alternative solutions to environmental problems and their implications for nature and society;	Human Impact on the Environment, scientific perspectives - ESC-20017 Environmental Analytical Methods - ESC-20032
environmental management issues in a range of different environments; the process and application of a range of analytical techniques relevant to the analysis of the composition of different environmental media (including soil, water, vegetation);	Environmental Analytical Methods - ESC-20032 Environmental Chemistry - ESC-10095
the essential contributions of geoscience to the economic, environmental and cultural needs of Society;	Geoscience and Society - ESC-20037
the environmental and social responsibilities of organisations including the benefits to businesses to 'green' their operation and ways this can be achieved;	Sustainability Policy and Practice - ESC-10097
a key multidisciplinary issue/problem reflecting the student's interests at the forefront of Environmental Science.	Dissertation - ESC-30047

Subject Specific Skills	
Learning Outcome	**Module in which this is delivered**
carry out and record practical chemistry experiments relevant to the environmental sciences, including the analysis and interpretation of data generated	Environmental Chemistry - ESC-10095
recognise minerals in hand specimen and thin section using a hand lens, petrological microscope and related techniques use techniques for the acquisition, interpretation, analysis and visualisation of geoscience data (e.g. geological maps) show knowledge and understanding of geological field skills, and be able to synthesise their observations and interpretations within a geological report	Planet Earth - Our Environment - ESC-10096 Environmental Analytical Methods - ESC-20032
demonstrate competency in a range of skills necessary for successful study of environmental science in higher education (e.g. numeracy, IT, visual, oral and written communication);	Environmental Analytical Methods - ESC-20032 Studying the Environment - ESC-10061 and most other modules
demonstrate familiarity with a range of ecological and geochemical laboratory and field techniques	Environmental Analytical Methods - ESC-20032 Environmental Chemistry - ESC-10095
collect, synthesize, evaluate and present environmental (geochemical, ecological, geological) data	Ecotoxicology and Risk Assessment - ESC-30056 All modules
work safely in a scientific laboratory, with awareness of standard methods and procedures and with due regard for risk assessment and relevant health and safety regulations apply relevant quantitative techniques to the analysis of environmental problems manipulate, analyze and interpret data sets relating to an area of environmental science	Environmental Analytical Methods - ESC-20032 Environmental Chemistry - ESC-10095 Dissertation - ESC-30047 Planet Earth - Our Environment - ESC-10096
design an achievable piece of research applicable to the field of environmental science, showing an ability to synthesize and interrogate the research literature and evaluate and select appropriate techniques	Dissertation - ESC-30047 Environmental Analytical Methods - ESC-20032
integrate biological, geological and chemical aspects of field (and laboratory) study by preparing a report/presentation on investigations of several habitats	Dissertation - ESC-30047 Environmental Chemistry - ESC-10095 Ecotoxicology and Risk Assessment - ESC-30056 Environmental Analytical Methods - ESC-20032 Advanced Environmental Field Skills - ESC-30110 Extinction! - ESC-30106 Planet Earth - Our Environment - ESC-10096
evaluate solutions to problems of managing a disturbed/degraded area	Geographical and Environmental Field Skills - ESC-20106
evaluate possible options for alternative solutions to environmental problems	Dissertation - ESC-30047 Human Impact on the Environment, scientific perspectives - ESC-20017 Planet Earth - Our Environment - ESC-10096 Environmental Chemistry - ESC-10095 Geographical and Environmental Field Skills - ESC-20106
demonstrate familiarity with a range of field and laboratory techniques appropriate to Environmental Science investigation	Environmental Chemistry - ESC-10095 Dissertation - ESC-30047 Planet Earth - Our Environment - ESC-10096 Environmental Analytical Methods - ESC-20032
assess solutions to problems of managing disturbed/degraded/ disadvantaged areas and demonstrate an understanding of environmental management issues in a range of environments and contexts	Geographical and Environmental Field Skills - ESC-20106

Subject Specific Skills	
Learning Outcome	**Module in which this is delivered**
apply theoretical knowledge and understanding of environmental science and sustainability issues to specific social, geographical and environmental contexts	Geographical and Environmental Field Skills - ESC-20106
demonstrate technical appreciation of the process and application of a range of analytical techniques relevant to the analysis of the composition of different environmental media	Environmental Analytical Methods - ESC-20032 Environmental Chemistry - ESC-10095
undertake effective fieldwork with due regard for safety, risk assessment, rights of access, relevant health and safety regulations and sensitivity to the impact of investigations on the environment	Dissertation - ESC-30047 Studying the Environment - ESC-10061
apply their own knowledge, skills and experience to an aspect of current Environmental Science research (through the use of established, analytical scientific methods, literature review, data collection and interpretation etc.) and to have developed the skills necessary to exercise own independent analysis, initiative and self-learning	Dissertation - ESC-30047 Environmental Analytical Methods - ESC-20032

Key or Transferable Skills (graduate attributes)	
Learning Outcome	**Module in which this is delivered**
develop effective approaches to learning and study, including time management, flexibility, creativity and intellectual integrity	Dissertation - ESC-30047 Studying the Environment - ESC-10061 Academic, Fieldwork and Employability Skills - ESC-10094 All modules
communication skills enabling them to communicate effectively to a variety of audiences in written, verbal and graphical forms	All modules
work with numerical data using appropriate qualitative and quantitative techniques, as well as computer software packages work effectively with a variety of types of information technology to analyse and present information and data, as well as solve numerical problems	Ecotoxicology and Risk Assessment - ESC-30056 Environmental Analytical Methods - ESC-20032 Environmental Chemistry - ESC-10095 Planet Earth - Our Environment - ESC-10096 Academic, Fieldwork and Employability Skills - ESC-10094
use the internet as a means of communication and a source of information	All modules
demonstrate competence in spatial awareness and observation	Advanced Environmental Field Skills - ESC-30110 Academic, Fieldwork and Employability Skills - ESC-10094 Planet Earth - Our Environment - ESC-10096 Geographical and Environmental Field Skills - ESC-20106
conduct field and laboratory studies	Environmental Impact Assessment: practical geographical and environmental skills - ESC-20108 Dissertation - ESC-30047 Environmental Chemistry - ESC-10095
reference work in an appropriate manner	Academic, Fieldwork and Employability Skills - ESC-10094 All modules
work with information handling and retrieval systems using data from a wide range of sources	Geographic Information Science and Remote Sensing - ESC-20132 Dissertation - ESC-30047
design a piece of research achievable as a third year dissertation project and applicable to the field of Environment & Sustainability; showing an ability to synthesize the research literature, select appropriate techniques for data collection and analysis, and conduct research ethically and safely	Geographical and Environmental Field Skills - ESC-20106 Dissertation - ESC-30047
work effectively both as an individual and as part of a group or team, recognising and respecting the viewpoints of others sustain motivation to work towards a goal over an extended period of time recognise responsibilities as a local, national and international citizen	All modules

9. Final and intermediate awards

Credits required for each level of academic award are as follows:

Honours Degree	360 credits	You will require at least 120 credits at levels 4, 5 and 6 You must accumulate at least 270 credits in your main subject (out of 360 credits overall), with at least 90 credits in each of the three years of study*, to graduate with a named single honours degree in this subject. *An exemption applies for students transferring from a Combined Honours programme - see point 3.4 here: https://www.keele.ac.uk/regulations/regulationc3/
Diploma in Higher Education	240 credits	You will require at least 120 credits at level 4 or higher and at least 120 credits at level 5 or higher
Certificate in Higher Education	120 credits	You will require at least 120 credits at level 4 or higher

International Year option: in addition to the above students must pass a module covering the international year in order to graduate with a named degree including the 'international year' wording. Students who do not complete, or fail the international year, will be transferred to the three-year version of the programme.

Work Placement Year option: in addition to the above students must pass a non-credit bearing module covering the work placement year in order to graduate with a named degree including the 'with Work Placement Year' wording. Students who do not complete, or fail the work placement year, will be transferred to the three-year version of the programme.

10. How is the Programme Assessed?

The wide variety of assessment methods used on this programme at Keele reflects the broad range of knowledge and skills that are developed as you progress through the degree programme. Teaching staff pay particular attention to specifying clear assessment criteria and providing timely, regular and constructive feedback that helps to clarify things you did not understand and helps you to improve your performance. The following list is representative of the variety of assessment methods used on your programme:

- **Unseen closed and open book examinations** in different formats test students' knowledge and understanding of the subject. Examinations may consist of essay, short answer and/or multiple choice questions.
- **Technical reports** require you to describe the process and progress of a scientific investigation, including engagement with and analysis of scientific data, and present this is a clear and concise format. Some technical reports may require you to make recommendations.
- **Poster presentations:** enable students to develop their communication skills and summarize the findings of their research in a clear, concise, visual and professional format. Posters may be presented in the form of a 'conference-style' presentation session whereby students give an oral summary of their work. Posters may be completed in small groups or as individuals.
- **Oral presentations** assess individual students' subject knowledge and understanding. They also test their ability to work effectively as members of a team, to communicate what they know orally and visually, and to reflect on these processes as part of their own personal development.
- **Field Course Portfolios** document a range of activities and exercises undertaken in the field, either individually or in small groups.
- **Field Notebooks** allow you to document and record your field-based observations, including the use of field sketching, to enable you to better understand the unfamiliar field environment in which you are working in.
- **Reflective Diaries** enable you to critically reflect on your learning experiences, for example as part of a work placement experience.You are assessed on the quality of this reflection and on your ability to respond constructively to the challenges and difficulties you encounter in the process of your own creative development and learning.
- **Essays** allow you to demonstrate your ability to articulate ideas clearly using argument and reasoning skills and with close reference to the contexts and critical concepts covered in the modules. Essays also develop and demonstrate research and presentation skills (including appropriate scholarly referencing).
- **Briefing notes** allow you to condense information into a format that would be understandable by a non-specialist, often with a view to summarising the current state of a field and its implications.

- **Laboratory reports** - structured proformas and full lab reports are formal summaries of work carried out in the laboratory and test your understanding of the practical aspects of the programme and develop the skills necessary to enable students to present and analyse their results.
- **Class tests** taken either conventionally or online via the Keele Learning Environment (KLE) assess your subject knowledge and their ability to apply it in a more structured and focused way.
- **Dissertations** enable you to explore in depth an area of particular interest through a substantial piece of focused research and writing, and test your ability to formulate and answer research questions.
- **Research projects and reports** test your knowledge of different research methodologies and the limits and provisional nature of knowledge. They also enable you to demonstrate your ability to formulate research questions and to answer them using appropriate methods.
- **Peer assessment:** in some cases students will be involved in marking other students' work, usually with a prescriptive marking guide. This helps you to appreciate where marks are gained and lost and gives you the opportunity to see the common mistakes made by other students.
- **Reviews** of other scholars' work test your ability to identify and summarise the key points of a text and to evaluate the quality of arguments and the evidence used to support them. In the case of work based on empirical research, reviews also assess your knowledge of research methodologies and your ability to make critical judgements about the appropriateness of different strategies for collecting and analysing data.

There is particular emphasis on forms of assessment such as report writing and oral presentations of direct relevance to future employment avenues.

Marks are awarded for summative assessments designed to assess your achievement of learning outcomes. You will also be assessed formatively to enable you to monitor your own progress and to assist staff in identifying and addressing any specific learning needs. Feedback, including guidance on how you can improve the quality of your work, is also provided on all summative assessments within three working weeks of submission, unless there are compelling circumstances that make this impossible, and more informally in the course of tutorial and seminar discussions.

11. Contact Time and Expected Workload

This contact time measure is intended to provide you with an indication of the type of activity you are likely to undertake during this programme. The data is compiled based on module choices and learning patterns of students on similar programmes in previous years. Every effort is made to ensure this data is a realistic representation of what you are likely to experience, but changes to programmes, teaching methods and assessment methods mean this data is representative and not specific.

Undergraduate courses at Keele contain an element of module choice; therefore, individual students will experience a different mix of contact time and assessment types dependent upon their own individual choice of modules. The figures below are an example of activities that a student may expect on your chosen course by year stage of study. Contact time includes scheduled activities such as: lecture, seminar, tutorial, project supervision, demonstration, practical classes and labs, supervised time in labs/workshop, fieldwork and external visits. The figures are based on 1,200 hours of student effort each year for full-time students.

Activity

	Scheduled learning and teaching activities	**Guided independent Study**	**Placements**
Year 1 (Level 4)	27.9%	72.1%	0%
Year 2 (Level 5)	29.5%	70.1%	0.4%
Year 3 (Level 6)	22.8%	77.2%	0%

12. Accreditation

This programme is accredited by the Institution of Environmental Sciences (IES) and by the Institute of Environmental Management and Assessment (IEMA). Students enrolled on IES accredited programmes may apply for Student Membership of the IES which provides a range of benefits: http://www.ies-uk.org.uk

13. University Regulations

The University Regulations form the framework for learning, teaching and assessment and other aspects of the

student experience. Further information about the University Regulations can be found at: http://www.keele.ac.uk/student-agreement/

If this programme has any exemptions, variations or additions to the University Regulations these will be detailed in an Annex at the end of this document titled 'Programme-specific regulations'.

Students should note that it is not possible to take both the Work Placement Year and International Year options.

A student who has completed a semester abroad will not normally be eligible to transfer onto the International Year option.

14. What are the typical admission requirements for the Programme?

See the relevant course page on the website for the admission requirements relevant to this programme: https://www.keele.ac.uk/study/

Applicants who are not currently undertaking any formal study or who have been out of formal education for more than 3 years and are not qualified to A-level or BTEC standard may be offered entry to the University's Foundation Year Programme.

Applicants for whom English is not a first language must provide evidence of a recognised qualification in English language. The minimum score for entry to the Programme is Academic IELTS 6.0 or equivalent.

English for Academic Purposes

Please note: All new international students entering the university will provide a sample of Academic English during their registration Using this sample, the Language Centre may allocate you to an English language module which will become compulsory. This will replace any GCP modules. *NB:* students can take an EAP module only with the approval of the English Language Programme Director and are not able to take any other Language modules in the same academic year.

English Language Modules at Level 4:

- Business - ENL-90003 Academic English for Business Students (Part 1); ENL-90004 Academic English for Business Students (2)
- Science - ENL-90013 Academic English for Science Students
- General - ENL-90006 English for Academic Purposes 2; ENL-90001 English for Academic Purposes 3; ENL-90002 English for Academic Purposes 4

English Language Modules at Level 5:

- Business - ENL-90003 Academic English for Business Students (Part 1); ENL-90004 Academic English for Business Students (2)
- Science - ENL-90013 Academic English for Science Students
- General - ENL-90006 English for Academic Purposes 2; ENL-90001 English for Academic Purposes 3; ENL-90002 English for Academic Purposes 4

English Language Modules at Level 6:

- Business - ENL-90003 Academic English for Business Students (Part 1); ENL-90004 Academic English for Business Students (2); ENL-90005 Advanced Business English Communication
- Science - ENL-90013 Academic English for Science Students
- General - ENL-90006 English for Academic Purposes 2; ENL-90001 English for Academic Purposes 3; ENL-90002 English for Academic Purposes 4

Recognition of Prior Learning (RPL) is considered on a case-by-case basis and those interested should contact the Programme Director. The University's guidelines on this can be found here: https://www.keele.ac.uk/qa/programmesandmodules/recognitionofpriorlearning/

15. How are students supported on the programme?

Academic Mentors: All students are allocated an Academic Mentor for the duration of their studies as part of the University's Academic Mentor system. The role of the Academic Mentor is to meet formally with their mentees at least once per semester to discuss progress and performance, to discuss profiling/ PDP, and to offer support and advice. In addition to an Academic Mentor allocated to the student, students are encouraged to seek support from any of the Environmental Science teaching and administrative staff. Students can make arrangements to see their Academic Mentor or other staff at any time and an open door policy is operated by all current Environmental Science teaching staff so students can easily get in contact with staff either personally or via email or phone. There is very strong communication links between students and staff and a friendly and supportive environment throughout the Environmental Science programme.

Use of e-learning/the Keele Learning Environment (KLE): All modules are supported by learning materials that are accessible to students via the KLE. The School supports the University's policy on module support on the KLE.

Health and Safety: All students admitted to the programme are expected to read the Geography, Geology and Environment Safety Handbook. Students are required to sign an agreement that they have read this Handbook, and that they will abide by the rules and regulations governing the efficient working, safety and welfare of all members both within the University and in the field. The handbook can be accessed from: http://www.keele.ac.uk/eesg/handbooks/

Students with disabilities: Students with disabilities or medical problems, who are admitted onto the Environmental Science degree programme, will meet with a member of the University's Disability Services department, the Environmental Science Programme Director and the Geography, Geology and Environment Disability Officer where appropriate, at the very start of the course in order to discuss any special requirements.

Procedures will then be implemented according to the nature of the student's disability or medical problem. These procedures can range, for example, from allowing extra examination time for students diagnosed as dyslexic, to allocating additional staff or demonstrators to field classes to help students with mobility problems.

Careers: In addition, to the University's central Careers service there is a specific careers tutor for Geography, Geology and Environmental programmes. Students are encouraged to seek the careers tutor for any help with deciding on postgraduate programmes and funding opportunities, discussing career options, discussing option choices in relation to specific career routes, and for help and assistance in applying for jobs and placements. Within the Keele Learning Environment there is a dedicated page to careers including several subject specific careers sites.

16. Learning Resources

The School of Geography, Geology and the Environment has its own building (the William Smith Building) that contains well-equipped laboratories and lecture theatres, and also uses the state-of-the-art teaching facilities in the Central Science Laboratory building. The School Office in the William Smith Building is currently open during the week from 8.45am to 5.00pm to answer student queries. Teaching on specific modules takes place elsewhere in the University when there is a need for more specialised teaching facilities allowing the Environmental Science programme to benefit from a wide-range of cutting-edge teaching facilities and analytical instrumentation based elsewhere within the University. Students also have access to computing facilities within the School of Geography, Geology and the Environment for individual work.

17. Other Learning Opportunities

Study abroad (semester)

Students on the programme have the potential opportunity to spend a semester abroad in their second year studying at one of Keele's international partner universities. Please note that students cannot take both a Global Challenge Pathway (GCP) and the semester abroad option.

Exactly which countries are available depends on the student's choice of degree subjects. An indicative list of countries is on the website (http://www.keele.ac.uk/studyabroad/partneruniversities/); however this does not guarantee the availability of study in a specific country as this is subject to the University's application process for studying abroad.

No additional tuition fees are payable for a single semester studying abroad but students do have to bear the costs of travelling to and from their destination university, accommodation, food and personal costs. Depending on the destination they are studying at additional costs may include visas, study permits, residence permits, and compulsory health checks. Students should expect the total costs of studying abroad to be greater than if they study in the UK, information is made available from the Global Education Team throughout the process, as costs will vary depending on destination.

Whilst students are studying abroad any Student Finance eligibility will continue, where applicable students may be eligible for specific travel or disability grants. Students who meet external eligibility criteria may be eligible for grants as part of this programme. Students studying outside of this programme may be eligible for income dependent bursaries at Keele. Students travel on a comprehensive Keele University insurance plan, for which there are currently no additional charges. Some governments and/or universities require additional compulsory health coverage plans; costs for this will be advised during the application process.

Study Abroad (International Year)

A summary of the International Year, which is a potential option for students after completion of year 2 (Level 5), is provided in the Annex for the International Year.

Work Placement Year

A summary of the Work Placement Year, which is a potential option for students after completion of year 2 (Level 5), is provided in the Annex for the Work Placement Year.

Fieldwork

Fieldwork is an essential part of an environmental scientist's training, providing both the opportunity to acquire and practice field-based skills, to develop skills of observation and recording and to work as effective members of a team. Keele is ideally located to be able to integrate a large component of field work into its environmental science programmes with a wide range of habitats in easy reach, including the Keele campus itself with its lake system and extensive woodlands, in addition to the mining and industrial heritage of the local area providing ideal opportunities for the study of the impact of these activities on the environment. The field courses in the second year provide the opportunity to investigate environmental science and management issues and environmental change within an unfamiliar environment. Students are also encouraged to make the most of other opportunities for field work with external organisations such as Operation Wallacea, which can form part of students third year independent project work.

18. Additional Costs

Field Course Costs

COMPULSORY FIELD TRIPS

ALL students undertake **compulsory field courses** as part of their studies - these are provided at no cost.

The University provides significant financial support for the compulsory fieldwork elements of the degree programme and the costs of travel and accommodation for compulsory field courses are fully paid for by the University up to and including Year 2. Students are responsible for their own subsistence.

OPTIONAL FIELD TRIPS

In addition to compulsory field courses, the programme offers optional overseas field trips as part of second- or third-year modules. The cost of this is subsidized by the University but you will incur additional costs of independently arranged student international travel.

To help students manage their field course costs, the payments are spread over the course of the academic year in which you participate in the field course. The first instalment Is non-refundable due to the need to pre-book accommodation etc. in advance. The costs of field courses are indicated at the start of the year, with details clearly communicated to students.

INDEPENDENT RESEARCH PROJECT

ALL students undertake an independent research project in their final year, which MAY include fieldwork. Students are responsible for organising their own transport and accommodation as well as paying any costs incurred whilst carrying out fieldwork. These costs are extremely variable as they are dependent on where the student carries out their project. Costs are minimal if the project work is undertaken in the students' local area.

IMPORTANT: Students are expected to have adequate clothing for field trips. We reserve the right to change the venues of field courses due to both cost and academic considerations. Some field courses are fully or partly catered for. Others are self-catered and students are expected to purchase meals (e.g., lunch and/or evening meal).

The costs below are only for indicative purposes and correct at the time of printing. Costs may vary, and will depend on students' choices of any optional field courses.

Activity	**Estimated Cost**
Field courses - compulsory	£0
Field courses - optional	£0
Travel to optional field course	£0 - £700 - depending on destination
Equipment - waterproof clothing and footwear for fieldwork	£200
Total estimated additional costs	**£200 - £900**

NB: as detailed in the Programme-Specific Regulations Annex, should you be required to retake the Introductory Environmental Chemistry module you will be charged additional fees.

We try to ensure that core text books are supplied by the library in adequate number or are available as E-books. However, students may choose to purchase their own copies of books for ease of access.

These costs have been forecast by the University as accurately as possible but may be subject to change as a result of factors outside of our control (for example, increase in costs for external services). Forecast costs are reviewed on an annual basis to ensure they remain representative. Where additional costs are in direct control of the University we will ensure increases do not exceed 5%.

As to be expected there will be additional costs for inter-library loans and potential overdue library fines, print and graduation. We do not anticipate any further costs for this programme.

19. Quality management and enhancement

The quality and standards of learning in this programme are subject to a continuous process of monitoring, review and enhancement.

- The School Education Committee is responsible for reviewing and monitoring quality management and enhancement procedures and activities across the School.
- Individual modules and the programme as a whole are reviewed and enhanced every year in the annual programme review which takes place at the end of the academic year.
- The programmes are run in accordance with the University's Quality Assurance procedures and are subject to periodic reviews under the Revalidation process.

Student evaluation of, and feedback on, the quality of learning on every module takes place every year using a variety of different methods:

- The results of student evaluations of all modules are reported to module leaders and reviewed by the Programme Committee as part of annual programme review.
- Findings related to the programme from the annual National Student Survey (NSS), and from regular surveys of the student experience conducted by the University, are subjected to careful analysis and a planned response at programme and School level.
- Feedback received from representatives of students in all three years of the programme is considered and acted on at regular meetings of the Student Staff Voice Committee.

The University appoints senior members of academic staff from other universities to act as external examiners on all programmes. They are responsible for:

- Approving examination questions
- Confirming all marks which contribute to a student's degree
- Reviewing and giving advice on the structure and content of the programme and assessment procedures

Information about current external examiner(s) can be found here:
http://www.keele.ac.uk/qa/externalexaminers/currentexternalexaminers/

20. The principles of programme design

The programme described in this document has been drawn up with reference to, and in accordance with the guidance set out in, the following documents:

a. UK Quality Code for Higher Education, Quality Assurance Agency for Higher Education: http://www.qaa.ac.uk/quality-code
b. QAA Subject Benchmark Statement: Earth Sciences, Environmental Sciences and Environmental Studies (2014): https://www.qaa.ac.uk/quality-code/subject-benchmark-statements?indexCatalogue=document-search&searchQuery=Earth%20Sciences&wordsMode=AllWords
c. Keele University Regulations and Guidance for Students and Staff: http://www.keele.ac.uk/regulations
d. Accreditation guidelines of the Institution of Environmental Sciences: https://www.the-ies.org/accreditation

21. Annex - International Year

Environmental Science with International Year

International Year Programme

Students registered for this Single Honours programme may either be admitted for or apply to transfer during their period of study at Level 5 to the International Year option. Students accepted onto this option will have an extra year of study (the International Year) at an international partner institution after they have completed Year 2 (Level 5) at Keele.

Students who successfully complete both the second year (Level 5) and the International Year will be permitted to progress to Level 6. Students who fail to satisfy the examiners in respect of the International Year will normally revert to the standard programme and progress to Level 6 on that basis. The failure will be recorded on the student's final transcript.

Study at Level 4, Level 5 and Level 6 will be as per the main body of this document. The additional detail contained in this annex will pertain solely to students registered for the International Year option.

International Year Programme Aims

In addition to the programme aims specified in the main body of this document, the international year programme of study aims to provide students with:

1. Personal development as a student and a researcher with an appreciation of the international dimension of their subject
2. Experience of a different culture, academically, professionally and socially

Entry Requirements for the International Year

Students may apply to the 4-year programme during Level 5. Admission to the International Year is subject to successful application, interview and references from appropriate staff.

The criteria to be applied are:

- Academic Performance (an average of 55% across all modules in Semester 1 at Level 5 is normally required. Places on the International Year are then conditional on achieving an average mark of 55% across all Level 5 modules. Students with up to 15 credits of re-assessment who meet the 55% requirement may progress to the International Year. Where no Semester 1 marks have been awarded performance in 1st year marks and ongoing 2nd year assessments are taken into account)
- General Aptitude (to be demonstrated by application for study abroad, interview during the 2nd semester of year 2 (Level 5), and by recommendation of the student's Academic Mentor, 1st and 2nd year tutors and programme director)

Students may not register for both an International Year and a Placement Year.

Student Support

Students will be supported whilst on the International Year via the following methods:

- Phone or Skype conversations with Study Abroad tutor, in line with recommended Academic Mentoring meeting points.
- Support from the University's Global Education Team

Learning Outcomes

In addition to the learning outcomes specified in the main text of the Programme Specification, students who complete a Keele undergraduate programme with International Year will be able to:

1. Describe, discuss and reflect upon the cultural and international differences and similarities of different learning environments
2. Discuss the benefits and challenges of global citizenship and internationalisation
3. Explain how their perspective on their academic discipline has been influenced by locating it within an international setting.
4. Apply their experiences abroad to the specific Graduate Attributes associated with their Environmental Science degree programme;
5. Integrate, apply and develop fundamental environmental science principles to describe and explain phenomena and solve problems in the context of selected topics within contemporary Environmental Science.

These learning outcomes will all be assessed by the submission of a satisfactory individual learning agreement, the successful completion of assessments at the partner institution and the submission of the reflective portfolio element of the international year module.

Regulations

Students registered for the International Year are subject to the programme-specific regulations (if any) and the University regulations. In addition, during the International Year, the following regulations will apply:

Students undertaking the International Year must complete 120 credits, which must comprise *at least 40%* in the student's discipline area.

This may impact on your choice of modules to study, for example you will have to choose certain modules to ensure you have the discipline specific credits required.

Students are barred from studying any module with significant overlap to the Level 6 modules they will study on their return. Significant overlap with Level 5 modules previously studied should also be avoided.

Additional costs for the International Year

Tuition fees for students on the International Year will be charged at 15% of the annual tuition fees for that year of study, as set out in Section 1. The International Year can be included in your Student Finance allocation, to find out more about your personal eligibility see: www.gov.uk

Students will have to bear the costs of travelling to and from their destination university, accommodation, food and personal costs. Depending on the destination they are studying at additional costs may include visas, study permits, residence permits, and compulsory health checks. Students should expect the total costs of studying abroad be greater than if they study in the UK, information is made available from the Global Education Team throughout the process, as costs will vary depending on destination.

Students who meet external eligibility criteria may be eligible for grants as part of this programme. Students studying outside of this programme may be eligible income dependent bursaries at Keele.

Students travel on a comprehensive Keele University insurance plan, for which there are currently no additional charges. Some Governments and/or universities require additional compulsory health coverage plans; costs for this will be advised during the application process.

22. Annex - Work Placement Year

Environmental Science with Work Placement Year

Work Placement Year summary

Students registered for this programme may either be admitted for or apply to transfer during their studies to the 'with Work Placement Year' option (NB: for Combined Honours students the rules relating to the work placement year in the subject where the placement is organised are to be followed). Students accepted onto this programme will have an extra year of study (the Work Placement Year) with a relevant placement provider after they have completed Year 2 (Level 5) at Keele.

Students who successfully complete both the second year (Level 5) and the Work Placement Year will be permitted to progress to Level 6. Students who fail to satisfactorily complete the Work Placement Year will normally revert to the 3-year programme and progress to Level 6 on that basis. The failure will be recorded on the student's final transcript.

Study at Level 4, Level 5 and Level 6 will be as per the main body of this document. The additional detail contained in this annex will pertain solely to students registered for the Work Placement Year option.

Work Placement Year Programme Aims

In addition to the programme aims specified in the main body of this document, the Work Placement Year aims to provide students with:

1. the opportunity to carry out a long-term work-based learning experience.
2. first-hand experience of the work place environment in a role highly relevant to the degree.

Entry Requirements for the Work Placement Year

Admission to the Work Placement Year is subject to successful application, interview and references from appropriate staff. Students have the opportunity to apply directly for the 4-year 'with work placement year' degree programme, or to transfer onto the 4-year programme at the end of Year-1 and in Year-2 at the end of Semester 1. Students who are initially registered for the 4-year degree programme may transfer onto the 3-year degree programme at any point in time, prior to undertaking the year-long work placement. Students who fail to pass the work placement year, and those who fail to meet the minimum requirements of the work placement year module, (* or equivalent, work placement), will be automatically transferred onto the 3-year degree programme.

* We recommend where possible students undertake a placement of between 9 - 12 months on a full-time basis to maximize academic and personal growth. However, the Faculty of Natural Sciences Work / Professional Placement Year mandates a minimum of 24 weeks in duration, ideally on a full-time basis, but no less than 21 hours per week. This enables those undertaking an unpaid placement to work on a part-time basis alongside their placement.

The criteria to be applied are:

- A good University attendance record and be in 'good academic standing'.
- Academic Performance (an average of 50% across all modules in Semester 1 at Level 5 is normally required. Places on the Work Placement Year are then conditional on achieving an average mark of 50% across all Level 5 modules. Students with up to 15 credits of re-assessment who meet the 50% requirement may progress to the Work Placement Year. Where no Semester 1 marks have been awarded performance in 1st year marks and ongoing 2nd year assessments are taken into account)
- General Aptitude (to be demonstrated by application(s) to relevant placement providers with prior agreement from the Programme Lead, interview during the 2nd semester of year 2 (Level 5), and by recommendation of the student's Academic Mentor, 1st and 2nd year tutors and Programme Lead)
- Students undertaking work placements will be expected to complete a Health and Safety checklist prior to commencing their work experience and will be required to satisfy the Health and Safety regulations of the company or organisation at which they are based.
- *(International students only)* Due to visa requirements, it is not possible for international students who require a Tier 4 Visa to apply for direct entry onto the 4-year with Work Placement Year degree programme. Students wishing to transfer onto this programme should discuss this with student support, the academic tutor for the work placement year, and the Programme Lead. Students should be aware that there are visa implications for this transfer, and it is the student's responsibility to complete any and all necessary processes to be eligible for this programme. There may be additional costs, including applying for a new Visa from outside of the UK for international students associated with a transfer to the work placement programme.

Students may not register for both an International Year and a Work Placement Year.

Student Support

Students will be supported whilst on the Work Placement Year via the following methods:

- Regular contact between the student and a named member of staff who will be assigned to the student as their University supervisor. The University supervisor will be in regular contact with the student throughout the year, and be on hand to provide advice (pastoral or academic) and liaise with the Placement supervisor on the student's behalf if required.
- Two formal contacts with the student during the placement year: the University supervisor will visit the student in their placement organization at around the 5 weeks afters placement has commenced, and then visit again (or conduct a telephone/video call tutorial) at around 15 weeks into the placement.
- Weekly supervision sessions will take place with the placement supervisor (or his/her nominee) throughout the duration of the placement.

Learning Outcomes

In addition to the learning outcomes specified in the main text of the Programme Specification, students who complete the 'with Work Placement Year' option will be able to:

1. Critically evaluate their learning from the work placement.
2. Explain how the professional environmental sector operates and what skills are needed to develop a career within it.
3. Apply academic theory learnt as part of the taught degree to real situations in the work place.

These learning outcomes will be assessed through the non-credit bearing Work Placement Year module which involves:

1. 10 hours of scheduled learning and teaching activities comprising workshops covering: CV and cover letter production, finding a placement, personal skills audits, internship/placement preparation, and pre-departure briefing including completion of necessary paperwork.
2. Mid-Placement Portfolio completion (a strength, weaknesses, opportunities and threats (SWOT) self-analysis; a personal action plan aimed at strengthening employability skills; and a performance report from the placement host).
3. End of placement Portfolio (a reflective diary of the placement experience; and a final performance report from the placement host).

Regulations

Students registered for the 'with Work Placement Year' option are subject to programme-specific regulations (if any) and the University regulations. In addition, during the Work Placement Year, the following regulations will apply:

- Students undertaking the Work Placement Year must successfully complete the zero-credit rated 'Work Placement Year' module
- In order to ensure a high quality placement experience, each placement agency will sign up to a placement contract (analogous to a service level agreement).
- Once a student has been accepted by a placement organisation, the student will make a pre-placement visit and a member of staff identified within the placement contract will be assigned as the placement supervisor. The placement supervisor will be responsible for ensuring that the placement experience meets the agreed contract agreed with the University.
- The placement student will also sign up an agreement outlining his/her responsibilities in relation to the requirements of each organisation.

Students will be expected to behave professionally in terms of:

(i) conforming to the work practices of the organisation; and

(ii) remembering that they are representatives of the University and their actions will reflect on the School and have an impact on that organisation's willingness (or otherwise) to remain engaged with the placement.

Additional costs for the Work Placement Year

Tuition fees for students on the Work Placement Year will be charged at 20% of the annual tuition fees for that year of study, as set out in Section 1. The Work Placement Year can be included in your Student Finance allocation; to find out more about your personal eligibility see: www.gov.uk

Students will have to bear the costs of travelling to and from their placement provider, accommodation, food and personal costs. Depending on the placement provider additional costs may include parking permits, travel and transport, suitable clothing, DBS checks, and compulsory health checks.

A small stipend may be available to students from the placement provider during the placement but this will need to be explored on a placement-by-placement basis as some organisations, such as charities, may not have any extra money available. Students should budget with the assumption that their placement will be unpaid.

Eligibility for student finance will depend on the type of placement and whether it is paid or not. If it is paid, this is likely to affect student finance eligibility, however if it is voluntary and therefore unpaid, should not affect student finance eligibility. Students are required to confirm eligibility with their student finance provider.

International students who require a Tier 4 visa should check with the Immigration Compliance team prior to commencing any type of paid placement to ensure that they are not contravening their visa requirements.

23. Annex - Programme-specific regulations

Programme Regulations: Environmental Science

Final Award and Award Titles	BSc (Hons) Environmental Science BSc (Hons) Environmental Science with International Year BSc (Hons) Environmental Science with Work Placement Year
Intermediate Award(s)	Diploma in Higher Education Certificate in Higher Education
Last modified	June 2019
Programme Specification	https://www.keele.ac.uk/qa/programmespecifications

The University's Academic Regulations which can be found on the Keele University website (https://www.keele.ac.uk/regulations/)[1] apply to and regulate the programme, other than in instances where the specific programme regulations listed below over-ride them. These programme regulations list:

- *Exemptions* which are characterised by the omission of the relevant regulation.
- *Variations* which are characterised by the replacement of part of the regulation with alternative wording.
- *Additional Requirements* which set out what additional rules that apply to students in relation to this programme.

The following **exemptions, variations** and **additional requirements** to the University regulations have been checked by Academic Services and have been approved by the Faculty Education Committee.

A) EXEMPTIONS

The clause(s) listed below describe where an exemption from the University's Academic Regulations exists:

For the whole duration of their studies, students on this Programme are exempt from the following regulations:

- **No exemptions apply.**

B) VARIATIONS

The clause(s) listed below describe where a variation from the University's Academic Regulations exists:

Variation 1: Re-assessment and alternative assessment of missed work

This programme varies from Regulation C3.12.

Reassessment, or alternative work to replace a missed assessment supported by exceptional circumstances, may sometimes take a different form from the original assessment where it is not feasible to recreate the original circumstances of assessment, for example in the case of fieldwork, group work or peer-assessed activities. Appropriate alternative assessments may be substituted in these situations. Where fieldwork is missed and supported by exceptional circumstances where appropriate students may be given the option of taking the field course the following year or completing alternative assessment.

Additional Requirements

The programme requirements listed below are in addition to the University's Academic Regulations:

Additional requirement 1: Attendance requirements

Students are required to attend all practical classes, tutorials, seminars, field courses and lectures. Attendance at all these sessions is monitored and checked by the academic support staff. Any absences due to exceptional circumstances should be notified as soon as possible to the School Office who will then pass on this information to tutors, as necessary. Any exceptional circumstances must be notified using the appropriate form following University regulations.Students who display a poor attendance record for no good reason are likely to be subject to disciplinary action.In addition, when taking modules from subjects other than those in the School of Geography, Geology and the Environment students must inform themselves of, and abide by, any additional attendance and notification requirements of that particular School.

Self-certification of illness as a reason for absence from compulsory classes will be accepted for no more than three occasions per Semester. Any subsequent absence for reasons of illness must be accompanied by a doctor's note.

Individual modules within the Environmental Science programmes have specific attendance regulations:

Life Science (LSC) module attendance

Attendance at practical classes, tutorials and seminars is compulsory in the School of Life Sciences. Registers will be taken at all compulsory sessions. It is the student's responsibility to ensure that they are recorded on the register as present. The office should be contacted by telephone on (01782) 733028 or (01782) 733677 or by e-mail at lifesci-office@keele.ac.uk as soon as possible to report an absence.

Failure to attend one compulsory session without good cause will result in an informal warning letter from the year tutor. Failure to attend any subsequent sessions without good cause will lead to the issuing of a formal warning from the Head of School. A maximum of two formal warnings will be issued and a fourth absence will result in a 3rd and final warning from the Director of Academic Services, which could result in the requirement to **withdraw** from the University.

The following School (Life Sciences) regulations will also apply:

- A student who is absent without good cause from 50% or more of the compulsory sessions in any module may be deemed to have failed the module.
- Self-certification of illness as a reason for absence from compulsory classes will be accepted for no more than two classes per module. Any subsequent absence for reasons of illness must be accompanied by a doctor's note.

Additional requirement 2: Regulations governing fieldwork

Students are expected to read the online Safety Handbook for the School of Geography, Geology and the Environment at registration in Year 1. Students are required to sign an agreement that they have read the Safety Handbook, and that they will abide by the rules and regulations governing the efficient working, safety and welfare of all members both within the School and in the field

Students are required to follow all instructions provided by course staff within the Safety and Field Course Handbooks and in person in the field.This includes instructions given be postgraduate demonstrators. Students must make staff aware of any pre-existing medical conditions or other issues that may be relevant to field

course safety prior to attending the field course.

Students, who by thoughtless actions or rowdy behaviour put the course, other students and the reputation of the University in jeopardy, will be immediately sent home to face disciplinary procedures by the University. Additionally, they will be required to attend the next scheduled field course as a re-assessment and at their own expense. Examples of serious misconduct include: wilful damage to property, injury to persons, ingestion of alcohol or illegal substances in the field so as to endanger themselves or other members of the course, improper use of safety equipment and/or failure to attend commitments.

Additional requirement 3: Form and submission of in-course assessments

The form and submission of coursework are determined by module leaders and announced in module documentation. Unless otherwise stated, work should be word processed. Students must familiarise themselves with the module documentation for information about how specific coursework assessments should be submitted. When taking modules from subjects other than those from within Geography, Geology and the Environment, students must inform themselves of, and abide by, the assessment and submission requirements of that School.

In the absence of agreed exceptional circumstances, work submitted late but within one week of the deadline will be marked to a maximum of 40%. Work submitted more than one week late will be given a mark of zero. Requests for extensions to deadlines should be made to the relevant module tutor and the Programme Director in advance of the coursework deadline using the University's exceptional circumstances online system.

Marks indicated on returned work are provisional and subject to change until ratified by the appropriate examination board. Although marked assignments are returned to students to provide feedback, any work that counts towards the final degree result has to be made available for consultation by the External Examiner at the end of the programme. Students must be in a position to be able to resubmit work in good condition when required by the School.

Additional requirement 4: Field work expenses

Fieldwork is a compulsory part of the Environmental Science degree programme and forms components of assessed modules. The University provides significant financial support for the compulsory fieldwork elements of the degree programme and the costs of travel and accommodation for compulsory field courses are fully paid for by the University up to and including Year 2.

ALL Environmental Science students undertake an independent research project in their final year, which MAY include fieldwork. Students are responsible for organising their own transport and accommodation as well as paying any costs incurred whilst carrying out fieldwork. These costs are extremely variable as they are dependent on where the student carries out their project. Costs are minimal if the project work is undertaken in the students' local area.

[1] References to University Regulations in this document apply to the content of the University's Regulatory Framework as set out on the University website here https://www.keele.ac.uk/regulations/.

Version History

This document

Date Approved: 04 June 2024

Previous documents

Version No	Year	Owner	Date Approved	Summary of and rationale for changes
1	2023/24	PETER KNIGHT	07 February 2023	
1	2022/23	ADAM MOOLNA	28 March 2022	Removal of optional module ESC-30020 Water Resources
1	2021/22	ADAM MOOLNA		
2	2020/21	IAN OLIVER	30 April 2020	Introduction of new compulsory modules at Level 5 ('Biodiviersity Crisis') and 6 ('The Science of Soil'), plus a replacement module at Level 4 ('Ecology and Plant Biology') necessitated by changes to modules provided by Life Sciences.
1	2020/21	IAN OLIVER	25 February 2020	
2	2019/20	IAN OLIVER	01 May 2020	New compulsory module at Level 6 ('The Science of Soil') and 'Ecotoxicology and Risk Assessment' replaces 'Contemporary Topics in Environmental Science'
1	2019/20	EDWARD MCCAULEY	01 July 2019	