University of Plymouth

Faculty of Science and Engineering

School of Geography Earth and Environmental Sciences

Programme Specification

BSc (Hons) Environmental Chemistry - 7706

September 2025

1. **BSc (Hons) Environmental Chemistry**

Final award title **BSc (Hons) Environmental Chemistry**

Level 4 Intermediate award title(s) **Certificate of Higher Education**
120 credits at Level 4

Level 5 Intermediate award title(s) **Diploma of Higher Education**
120 credits at Level 5

UCAS code **F142**
HECoS code **101045**

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

Teaching institution(s): University of Plymouth

3. **Accrediting body**: None.

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

- An **interdisciplinary programme** that integrates relevant aspects of scientific inquiry in both chemical and environmental sciences
- The application of scientific knowledge, research skills and life skills to form a strong interdisciplinary identity which is built upon the concepts of environmental sustainability, interactions with resource and environmental management
- Flexibility to study **specialist areas in both Environmental Sciences and Chemistry** in depth as well as maintaining academic breadth
- A curriculum in which theoretical concepts are brought to life and applied through progressively more complex involvement in both lab and fieldwork activities.
- A curriculum that is designed to fit well to industry need and demand and will receive regular review based on the feedback received from our Employer Advisory Panel.
- Involvement in an **independent research project** which progresses from the planning phase through field and laboratory work to data analysis, interpretation and communication, which may involve collaboration across the school to investigate environmental and green solutions to current practice

- Teaching and learning that is underpinned and informed by **award-winning, internationally recognised research** across the contributing disciplines
- Use of authentic tasks that mimic **professional practice** throughout the curriculum, and opportunities for both work-based learning and a placement year leading to the University's Certificate of Professional Practice
- Intensive skills and professional development through **extensive fieldwork and laboratory sessions**
- **Student support** via personal tutoring, personal development planning (PDP) and a Peer Assisted Learning Scheme (PALS)
- Opportunities for international **student exchange**
- Access to **excellent facilities**, including LABplus, a unique, hands-on facility for project-oriented independent learning, and ISO 9001-accredited laboratories
- The opportunity to draw on staff's significant professional experience outside academia, including via guest speakers from industry and public sector.
- Visits to industry laboratories and organisations will be undertaken where possible.

5. Relevant QAA Subject Benchmark Group(s)

Chemistry and Earth Sciences, Environmental Sciences and Environmental Studies

6. Programme Structure

Stage 1 (Level 4)	**Semester 1**	**CHM1011** Practice of Chemistry 20 credits	**CHM1017** **Inorganic Chemistry** 20 credits	**CHM1021** **Approaches to Data Analysis** 20 credits
	Semester 2	**CHM1019 Organic Chemistry** 20 credits	**CHM1020** **Physical Chemistry** 20 credits	**CHM1022** **ChemAnalysis: Tools of the Trade** 20 credits

Stage 2 (Level 5)	**Semester 1**	**CHM2012** **Organic Chemistry** 20 credits	**CHM2017 The Analytical Toolbox** 20 credits	**GEES2307** **Pollution: Measurement and Mitigation** or **GEES2304** **Environmental Issues and Communication** 20 credits	**GEES 2000** **Placement Preparation** 0 credits
	Semester 2	**CHM2011** **Inorganic Chemistry** 20 credits	**CHM2018** **Practical Environmental Chemistry** or **GEES2303** **Environmental Management and Sustainability** 20 credits	**GEES2302** **Environmental Expedition** or **CHM2019 Career Catalyst: Pathways to Professional Success** 20 credits	

Optional Stage 3 (Level 6)	**Semester 1 and 2**	**GEES3000 Placement** 0 credits

<table>
<tr>
<td rowspan="2">Stage 4 (Level 6)</td>
<td>Semester 1</td>
<td rowspan="2">CHM3018 Advanced Research Project

40 credits</td>
<td>CHM3014 Advanced Inorganic Chemistry

or

CHM3020 Frontiers in Analytical Science

20 credits</td>
<td>GEES3308 Global Environmental Solutions

20 credits</td>
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<tr>
<td>Semester 2</td>
<td>CHM3015 Advanced Organic Chemistry

or

OS309 Marine Pollution and Environmental Change

20 credits</td>
<td>GEES3307 The Environmental Professional

or

GEES3002 Frontiers in Fieldwork: Unlocking Multidisciplinary Potential

20 credits</td>
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7. Programme Aims

The aim of the programme is to develop the knowledge and skills necessary for employment as a professional environmental chemist. These skills will also be applicable in a variety of non-chemistry related contexts.

The programme will provide opportunities to:

1. gain a broad knowledge and understanding, and develop the ability to investigate advanced chemical concepts and place them within a broad environmental context
2. develop a professional level of ability in environmental chemistry related techniques of sustainable experimental design, the appropriate use of laboratory equipment to generate quality data, record keeping, and safe working practice
3. develop the ability to define objectives, plan and execute a series of tasks for an extended environmental chemistry project, and review and communicate the outcomes
4. develop the ability to think critically and take ownership of the problem-solving process, delivering solutions to both simple and complex real-world environmental chemical problems
5. develop the ability to deliver oral and written presentations on an environmental chemistry-related topic
6. develop the ability to select and apply appropriate methods of information retrieval, interpretation and analysis of chemical data to a professional standard
7. develop a distinct course identity and philosophy via a tutorial programme, relevant case studies, and practicals, which will bring together the environmental and chemical teachings.
8. understand the basic principles of sustainability and how it is connected to environmental chemistry

8. Programme Intended Learning Outcomes

8.1 Knowledge and Understanding

On successful completion, graduates should be able to:

a. demonstrate a sound knowledge and understanding of inorganic chemistry
b. demonstrate a sound knowledge and understanding of organic chemistry
c. demonstrate a sound knowledge and understanding of the fundamentals of physical chemistry
d. demonstrate a sound knowledge and understanding of analytical chemistry

e. recognise the interdisciplinarity of environmental chemistry and demonstrate an appreciation of the contribution made by the physical and social sciences
f. describe selected aspects of the structure, functioning and perturbation of biogeochemical cycles
g. identify the basic principles of social, economic and legal systems and their relevance to environmental science
h. understand the environmental implications of resource exploitation and industrial development and evaluate the management and sustainability of such practices.

8.2 Cognitive and Intellectual Skills

On successful completion, graduates should be able to:

a. obtain, present and evaluate information/data from a variety of sources
b. use techniques and/or knowledge that are at the forefront of the subject to propose solutions to chemical and environmental problems
c. generate new knowledge and/or analyse existing knowledge to answer a question or address a hypothesis

8.3 Key and Transferable Skills

On successful completion, graduates should be able to:

a. communicate effectively by written, verbal and electronic means, with structured and coherent arguments
b. work as part of a team, identifying defined outcomes, recognising options and taking responsibility
c. Select, retrieve and analyse data and information from appropriate scientific databases

8.4 Employment-Related Skills

On successful completion, graduates should be able to:

a. demonstrate personal skills, knowledge and attitudes equivalent to those of a professional environmental chemist, used to working in an interdisciplinary setting
b. select and use appropriate assessment and management tools in line with best professional practice
c. demonstrate critical thinking, self-management and professional development, including self-evaluation and translational skills

8.5 Practical Skills

On successful completion, graduates should be able to:

a. apply field and laboratory techniques to observe, measure, record and test chemical and environmental phenomena and materials
b. manage the planning, execution and evaluation of practical environmental and chemical investigations either in the laboratory or the field in a safe working environment
c. apply appropriate software and statistical tests to manage, model and interpret environmental and chemical datasets

9.0 Admissions Criteria, including APCL, APEL and DAS arrangements

The admissions criteria for BSc (Hons) Environmental Chemistry are detailed in Table 2. All applicants must have GCSE (or equivalent) Maths and English at Grade C or above.

Table 2. Admissions criteria for BSc (Hons) Environmental Chemistry

<table>
<tr><th colspan="2">Entry Requirements for BSc. (Hons) Chemistry</th></tr>
<tr><td>A-level/AS-level</td><td>Normal minimum entry requirements are 104 - 112 points (typical offer will be 112), all from three (3) A-levels to include at least a B/C in Chemistry and one further subject from the table below.
<table>
<tr><td>Maths</td><td>Physics</td><td>Statistics</td><td>Geology</td><td>Environmental Science</td></tr>
<tr><td>Biology or Human Biology</td><td>Use of Maths</td><td>Applied Science</td><td>Science in the Environment</td><td>Engineering</td></tr>
<tr><td>Psychology</td><td colspan="2">Design Technology – Product Design</td><td>Economics</td><td></td></tr>
</table>
General Studies is excluded from the list…</td></tr>
<tr><td>BTEC National Diploma/QCF Extended Diploma</td><td>Candidates may be interviewed before an offer is made. 18 units, Grade DMM. Science related including chemistry units.</td></tr>
<tr><td>Access to Higher Education at level 3</td><td>Candidates may be interviewed before an offer is made. Pass in Access to HE Diploma in Science with at least 33 credits at Merit and / or Distinction and to include at least 15 credits in Chemistry with Merit including Ordinary Level Grade C/4 Maths and English</td></tr>
<tr><td>Welsh Baccalaureate</td><td>Can be used to replace one A-level alongside 2 others to include chemistry.</td></tr>
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Irish Leaving Certificate	112 points to include H3 in chemistry
International Baccalaureate	28 overall to include 5/4 at HL Chemistry, plus one further from table above sciences subjects from Table 1. Any other combinations REFER. English and Maths accepted within If Advanced Level = 4+ (A1) or 5 (A2/B) If Standard Level = 5+ (A1) or 6 (A2/B) If overseas and not studying English within IB, must have IELTS 6.0 overall with 5.5 in all other elements.
Progression from BSc (Hons) Chemistry with Foundation Year	Students who pass the BSc (Hons) Chemistry with Foundation Year with > 50% are guaranteed progression to one of the Faculty's BSc (Hons) programmes and detailed advice will be provided by the Admissions Tutor.

10 Progression criteria for Final and Intermediate Awards

10.1 Final award titles

BSc (Hons) Environmental Chemistry

The programme follows University regulations to calculate final grades and the classification of awards.

10.2 Intermediate award titles

There will always be a small number of students who, for a variety of reasons, cannot complete their studies. It is important that the abilities and skills of these students are acknowledged in some way. Thus, University regulations allow for the following awards:

Certificate of Higher Education

Diploma of Higher Education

11 Exceptions to Regulations

Not applicable.

12 Transitional Arrangements

Module code changes AY25/26

Module code (2024/25)	Module code (2025/26)
CHM1014	CHM1022
CHM2016	CHM2019
ENVS2002	GEES2302
ENVS2003	GEES2303
ENVS2004	GEES2304
ENVS2008	GEES2307
ENVS3012	GEES3307
ENVS3013	GEES3308

Programme Specification Mapping (UG) – core/elective modules

Module	Semester	Credits	**C** core **E** elective	Programme Learning Outcomes contributed to (for more information see Section 8): 8.1 Knowledge & understanding								8.2 Cognitive & intellectual skills			8.3 Key & transferable skills			8.4 Employment related skills			8.5 Practical skills			Compensation Y/N	**Assessment element(s) and weightings** 01 - online open book assesment E1 - exam E2 - clinical exam T1 - test C1 - coursework A1 - generic assessment P1 - practical
				a	b	c	d	e	f	g	h	a	b	c	a	b	c	a	b	c	a	b	c		
CHM1011	1	20	C	X	X	X	X					X	X	X	X		X				X	X		Y	C1 60% P1 40%
CHM1021	1	20	C									X	X				X							Y	C1 50% E1 50%
CHM1017	1	20	C		X		X					X	X		X		X				X	X		Y	C1 50% E1 50%
CHM1019	2	20	C	X			X					X	X		X		X				X	X		Y	C1 50% E1 50%
CHM1020	2	20	C			X															X	X		Y	C1 50% E1 50%
CHM1022	2	20	C				X	X					X	X	X		X				X		X	Y	P1 50% E1 50%
Learning Outcomes 120 credits				X	X	X	X	X				X	X	X	X		X				X	X	X		
CHM2012	1	20	C	X								X	X	X	X						X	X		Y	C1 50% E1 50%
CHM2017	1	20	C	X	X							X	X	X	X	X								Y	C1 100%
GEES2304	1	20	E									X		X	X			X		X				Y	C1 100%
GEES2307	1	20	E					X	X		X	X		X	X				X		X	X	X	Y	C1 50% P1 50%
CHM2011	2	20	C		X							X	X	X	X	X		X	X					Y	C1 50% E1 50%
CHM2018	2	20	E	X	X	X	X					X	X		X	X	X				X	X	X	Y	C1 100%
GEES2302	2	20	E										X	X	X	X		X		X	X	X		Y	C1 60% P1 40% A1 Pass/Fail
GEES2303	2	20	E					X		X	X		X		X									Y	C1 60% P1 40%
CHM2019	2	20	E									X	X	X	X	X		X						Y	C1 100%
Learning Outcomes 240 credits				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
CHM3018	1 and 2	40	C									X	X	X	X	X	X	X	X		X	X		N	C1 80% P1 20%
CHM3014	1	20	E		X							X	X	X	X		X				X	X		Y	C1 50% E1 50%
CHM3020	1	20	E	X	X	X	X					X	X	X	X	X	X				X	X		Y	C1 100%
GEES3308	1	20	C					X		X	X	X	X		X	X	X	X	X	X			X	Y	C1 50% P1 50%
CHM3015	2	20	E	X	X	X	X					X	X	X	X	X	X				X	X		Y	C1 50% E1 50%
OS309	2	20	E					X			X										X	X		Y	C1 60% E1 40%
GEES3307	2	20	E					X		X	X	X	X	X	X		X	X		X			X	Y	C1 60% P1 40%
GEES3002	2	20	E					X				X			X	X	X	X			X	X	X	Y	C1 100%
Learning Outcomes 360 credits				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		