

# **Plymouth University**

Faculty of Science and Engineering

## **Programme Specification**

**BSc (Hons) Chemistry with Foundation Year - 5474**

September 2022

## 1.0 BSc (Hons) Chemistry with Foundation Year

Final award title; the final award title is that of the programme to which the student progresses for Levels 4 to 6.

For students entering the BSc (Hons) Chemistry with Foundation Year, normally this will

BSc (Hons) Chemistry

UCAS code F101

JACS code F100

**2.0 Awarding Institution** Plymouth University

**Teaching Institutions** Plymouth University

## 3.0 Accrediting body

None

## 4.0 Distinctive features of the Programme and the Student Experience

This is a four-year BSc (Hons) degree programme starting at Year Zero. It is one of a suite of such programmes, designed for students who are not appropriately qualified, in subject knowledge, attainment or recent experience, for entry to Level 4 of undergraduate programmes in Science. On successful completion of Year Zero, students progress to Level 4 of an undergraduate degree in Science. Students completing the BSc (Hons) Chemistry with Foundation Year programme will normally progress to one of the BSc (Hons) programmes in the School of Geography, Earth and Environmental Sciences shown at section 1.

Distinctive features of this programme are that it:

- is suitable for non-standard entrants, including mature returners to study, those without Science qualifications or with Science qualifications below the standard required for entry to Level 4
- assumes no prior knowledge of science and welcomes applications from those who have studied other disciplines.
- is recognised nationally as excellent, allowing more than 2500 students to enter Higher Education in its 25 years of operation
- provides a choice of specialisms, in chemistry, biology and mathematics, as preparation for progression to undergraduate programmes in Chemistry
- provides a high proportion of experiential work in field or lab, and intensive and early assessment, with rapid feedback designed to support learning
- provides personal support for learning through regular meetings with your personal tutor and input from specialist staff in Chemistry

- provides English language support for overseas students in core modules
- is underpinned by research activity of staff, in Chemistry and particularly in the pedagogy of science disciplines

### **5.0 Relevant QAA Benchmark Groups**

The programme is devised with reference to the subject benchmarks of the discipline to which students will progress to complete their degree. For the BSc (Hons) Chemistry with Foundation Year the relevant benchmark is:

[Chemistry](#)

### **6.0 Programme structure**

The programme structure is described diagrammatically below.

In Semester 1, students take the compulsory module GEES001 *Study and mathematical skills for science*, and two science modules, one in Chemistry, and one in Biology.

In Semester 2, students take the core modules CHM001 *Applications of Chemistry* and CHM010 *Chemistry 2*. Students also select one further discipline from Biology and Mathematics. To continue studying Biology students must have taken the corresponding module in Semester 1. Students who have no more than a grade C GCSE Mathematics, and achieve less than 50% in the Mathematics element of GEES001 are strongly advised to take MATH019 in Semester 2.

**Semester 1** (all modules are 20 credits)

Compulsory modules		
*GEES001 Study and mathematical skills for science	BIO012 Biology 1	CHM009 Chemistry 1

\*GEES001 is not compensatable in this programme

**Semester 2** (all modules are 20 credits)

Compulsory modules		Students select one module from:	
CHM001 Applications in Chemistry	CHM010 Chemistry	BIO013 Biology 2 Prerequisite BIO012	* MATH019 Mathematics and statistics for science

\*Students who have no more than a grade C GCSE Mathematics, and achieve less than 50% in the Mathematics element of GEES001 are strongly advised to take MATH019 in Semester 2.

## 7.0 Programme Aims

The aims shown below are those for the Level Zero element of this programme. They should be read in conjunction with the aims of the BSc (Hons) programmes available to you in [Chemistry](#) to show the full scope of our ambitions for you.

The aims of the Level Zero programme are to:

- 7.1 produce students who have a broad yet comprehensive understanding of the fundamentals of science that are necessary for successful progression to and in an honours degree programme in Chemistry
- 7.2 develop in students the ability to apply scientific knowledge and skills appropriately and successfully in undergraduate studies
- 7.3 equip students with the study skills necessary to successfully progress to and in an honours degree programme in Chemistry
- 7.4 enable students to become confident, critically self-aware independent learners.

- 7.5 begin to develop in students a range of key and transferable skills of value in the world of employment, including skills in the areas of communication, problem-solving, team-working, information-handling and processing.
- 7.6 prepare students for and initiate students into the culture of University-level study, both in terms of the academic standards and the study patterns required.

## **8. Intended programme learning outcomes (ILOs)**

The intended learning outcomes shown below are those for the Level Zero element of this programme. They should be read in conjunction with the Intended Learning Outcomes of the BSc (Hons) programmes available to you in [Chemistry](#), to show the full scope of our ambitions for you.

### **8.1 Knowledge and understanding**

On successful completion, graduates should be able to

- a Demonstrate a broad understanding of the fundamental knowledge base and the terminology of at least two major STEM disciplines, including Chemistry
- b Demonstrate an awareness of current areas of debate and discovery in Chemistry and how scientific knowledge and methods can be applied to investigate them.

### **8.2 Cognitive and intellectual skills**

On successful completion, graduates should be able to

- a Identify correctly the concepts and principles underlying theoretical frameworks in at least two STEM disciplines, including Chemistry, and begin to identify strengths and limitations of such models
- b Judge the reliability of data, results and information using well defined techniques and/or criteria
- c Operate in a range of varied but predictable contexts relevant to Chemistry, requiring the use and application of specified scientific techniques and information sources.

### **8.3 Key, transferable and employment-related skills**

On successful completion, graduates should be able to demonstrate

- a Written and oral communication skills and be able to use these in a variety of contexts
- b Problem-solving skills, relating to qualitative and quantitative information.
- c Numeracy and computational skills appropriate to the study of undergraduate science at university
- d Information-retrieval skills, in relation to primary and secondary information sources

- e Demonstrate an awareness of their own capabilities in key areas and engage in development activity through guided self-direction

#### 8.4 Practical skills

On successful completion, graduates should be able to

- a Demonstrate skills in the safe handling of materials in experimental settings, taking into account their chemical properties, including any specific hazards associated with their use.
- b Demonstrate the skills required to conduct standard laboratory procedures in at least two STEM disciplines
- c Demonstrate skills in the monitoring, by observation and/or measurement, of a variety of chemical or biological properties, events or changes, of both a quantitative and qualitative nature, together with their systematic and reliable recording and documentation, in the laboratory or the field.

#### 9.0 Admissions Criteria, including APCL, APEL and DAS requirements

	<b>Qualifications Required</b>	<b>Level Required</b>
<b>For all applicants</b>	GCSE Mathematics	C
	GCSE English	C
<b>International students</b>	IELTS	IELTS 6.0 overall with at least 5.5 in each element
<b>Applicants with formal qualifications in Science</b>	At least 140 UCAS points from Level 3 qualifications such as those below, typically with passes in science subjects	
	A Levels	normally including at least one pass in a science subject.
	AS Level	At least two passes in science subjects
	Baccalaureate	Passes, to include science
	Scottish and Irish Highers	Passes, to include science
	Post GCSE quals such as NVQ	Level 3 usually required
	GNVQ and AGNVQ	Passes in the science subjects
<b>Applicants without formal qualifications in Science</b>	Applications from students with non-standard qualifications, including those without Science qualifications at Level 3, are welcomed and are assessed on an individual basis. This programme is also suitable for those returning to study who can offer work or other related experience in place of formal qualifications and who have the equivalent of basic mathematical, English and science skills (ie the equivalent of a Grade C at GCSE level).	

In accordance with the University's Academic Regulations, Accreditation for Prior Learning (APEL) may be applied where a student can demonstrate appropriate recent learning or experience which fully satisfies the learning outcomes of the module(s) concerned.

In accordance with the University's policies, Level Zero programmes welcome applications from disabled students who are appropriately qualified, academically, for the programme. Information interviews are conducted with applicants to determine the nature of adjustments required.

### **10.0 Progression routes for final and intermediate awards**

The University guarantees progression to BSc (Hons) Chemistry, providing a student has achieved:

- 120 credits in the programme described in this specification and
- an overall mean of at least 50% in the programme described in this specification, averaged across all 120 credits
- at least 50% in module CHM009, CHM010 and CHM001

The University does not guarantee progression to programmes outside those shown in Section 1. Students intending to progress to other programmes at Plymouth University should contact the admissions teams of the programme to which they wish to progress. You should be aware that some programmes may ask you to apply through UCAS so please make these enquiries in good time.

### **11.0 Exceptions to Regulations**

- In order for a student to progress from Stage 0 onto Stage 1 of their chosen degree, they must achieve 120 credits plus meet the individual progression requirements as determined in the Programme specification.
- There is no compensation allowable in the module GEES001

### **12.0 Transitional arrangements**

Module taken in 2018-19 or earlier	Corresponding module to be taken in 2019-20 onwards
PHY009	Either BIO12 or CHM009
PHY010	Either BIO12, CHM010 or MATH019

The transitional arrangements described above are indicative; the availability of new modules at Level Zero and new pathways for progression, means that students affected by the transitional arrangements will be counselled

individually, so that their programme best supports both completion of the Level Zero programme and successful progression to Level 4.

### 13. Mapping

#### 13.1 Indicative Learning Outcomes (ILOs) against modules

	<b>Knowledge and understanding</b> On successful completion, students should be able to:	
a	Demonstrate a broad understanding of the fundamental knowledge base and the terminology of at least two major STEM disciplines, including Chemistry	CHM009, CHM010 optional modules
b	Demonstrate an awareness of current areas of debate and discovery in Chemistry and how scientific knowledge and methods can be applied to investigate them.	CHM001 CHM009 CHM010 optional modules

	<b>Cognitive and intellectual skills</b> On successful completion, students should be able to:	
a	Identify correctly the concepts and principles underlying theoretical frameworks in at least two STEM disciplines, including Chemistry and begin to identify strengths and limitations of such models	CHM009 CHM010 optional modules
b	Judge the reliability of data, results and information using well defined techniques and/or criteria	CHM009 CHM010 optional modules
c	Operate in a range of varied but predictable contexts relevant to Chemistry, requiring the use and application of specified scientific techniques and information sources	CHM001 CHM009 CHM010 optional modules

	<b>Practical Skills</b> On successful completion, graduates should be able to:	
a	Demonstrate skills in the safe handling of materials in experimental settings, taking into account their physical and chemical properties, including any specific hazards associated with their use.	CHM009 CHM010 optional modules except MATH019



b	Demonstrate the skills required to conduct standard laboratory procedures in at least two STEM disciplines	CHM009 CHM010 optional modules except MATH019
c	Demonstrate skills in the monitoring, by observation and/or measurement, of a variety of physical, chemical or biological properties, events or changes, of both a quantitative and qualitative nature, together with their systematic and reliable recording and documentation, in the laboratory or the field.	CHM009 CHM010 optional modules

	<b>Key, transferable and employment-related skills</b> On successful completion, graduates should be able to demonstrate	
a	Written and oral communication skills and be able to use these in a variety of contexts	GEES001 CHM001 Optional modules
b	problem-solving skills, relating to qualitative and quantitative information.	CHM001 GEES001 Optional modules
c	numeracy and computational skills appropriate to the study of undergraduate science at university	GEES001 CHM001 MATH019 if selected
d	Information-retrieval skills, in relation to primary and secondary information sources, to include information retrieval through on-line computer searches.	GEES001 CHM001

### 13.2 Assessment in modules

Module	% Coursework	% Test	% Examination	% Practical
<b>Core modules</b>				
GEES001	50	50		
CHM009	50	20	30	
CHM010	70		30	
CHM001	75			25

#### Optional modules

BIO012	60		40	
BIO013	60		40	

MATH019	50	50		
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