

## Programme Specification

### BSc Applied Chemistry (NUIST-UoR Academy) NUIST-based (full-time)

For students entering Part 0 in September 2021

AFAPCHEMJJ  
UFAPCHEMJX

**This document sets out key information about your Programme and forms part of your Terms and Conditions with the University of Reading.**

Awarding Institution	University of Reading
Teaching Institution	University of Reading
Length of Programme	4 years
Length of Programme with placement/year abroad	BSc Applied Chemistry (NUIST-UoR Academy) UoR-based (full-time) - 4 years (internal transfer only)
Accreditation	

#### Programme information and content

The foundation year (Part 0) is designed for foundation year students at NUIST who intend to progress on to a three-year undergraduate programme within the NUIST-University of Reading Academy. Successful completion of the NUIST Foundation Programme gives the student admission to one of the University of Reading undergraduate programmes. It also contributes, through credit transfer, to the first year of an award of NUIST.

On completion of Part 0, students will have the general academic language and study skills required to begin their Year 1 degree studies.

The programme is designed to provide a broad and rigorous study of modern chemistry through an internationally coordinated teaching approach. The programme will focus on some advanced topics across the branches of organic, inorganic, physical and analytical chemistry. In addition students will refine their laboratory techniques in preparation for an open ended investigative project in one of the above areas of chemistry. The programme will also give students the opportunity to develop transferable skills for employment and to enhance their English language skills through chemical applications. The programme provides an excellent foundation to further research studies in chemistry or to employment in the chemical industry.

This programme is available to students studying at Reading-NUIST Academy, who may transfer to UoR for parts 2 and/or 3 for part of their degree.

Foundation year:	<p>The <b>aims</b> of this of the programme are to develop students' language knowledge* and language skills to meet the needs of their future academic studies, by improving their ability to:</p> <ul style="list-style-type: none"><li>• use academic sources effectively and appropriately (in accordance with academic conventions) to complete academic assignments</li></ul>
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	<ul style="list-style-type: none"> <li>• present information, ideas and opinions through writing, in a clear, organised, and effective way, using appropriate academic language</li> <li>• understand long spoken texts (e.g. mini-lectures, lecture extracts, spontaneous monologues) and take notes independently</li> <li>• listen to and understand spontaneous speech in both group and one-to-one settings, and to contribute orally in both contexts in a relevant and constructive way</li> <li>• deliver extended formal presentations, and respond effectively to questions</li> <li>• study independently e.g. planning their work, managing their time, finding additional language learning resources and additional sources relevant to their academic assignments</li> <li>• work effectively in groups.</li> </ul> <p>*Language knowledge: in all parts of the programme, there will be an emphasis on expanding the students' range and control of English vocabulary, grammar, language functions and academic style.</p> <p><b>Content will include:</b></p> <p>Reading skills and strategies, including survey reading, close reading, selecting information, summarising, monitoring comprehension, summarising, synthesising.</p> <p>Listening skills and strategies, including identifying main and supporting points, note-taking, decoding connected speech, monitoring comprehension; listening and responding appropriately in interactive situations.</p> <p>Speaking skills, including oral presentations, group discussions, oral fluency, communicative strategies, negotiating meaning by checking understanding and asking for clarification, pronunciation.</p> <p>Writing skills, including paragraphing, text organisation, introductions and conclusions,</p> <p>analysing essay questions, paraphrasing, avoiding plagiarism, referencing ; the process of writing i.e. planning, drafting, receiving feedback, redrafting.</p> <p>Language knowledge: (a) vocabulary – General Service List, Oxford 3000, Academic Word List (b) grammatical structures and functional language relevant to general academic English.</p> <p>Studied at NUIST</p>
Part 1:	<p>Introduces you to the basic underpinnings of Inorganic, Organic and Physical Chemistry. Through material that will begin as a revision of A-level topics, it will progress rapidly and will present this familiar material in a new light. The goal of year 1 is to give each student the tools necessary to help them become</p>

	<p>an independent learner, provide the necessary background to enable rationalisation and predictions for unseen processes and reactions.</p> <p>Studied at NUIST</p>
Part 2:	<p>Provides you with more in-depth study of Inorganic, Organic and Physical Chemistry. The second year sees the introduction of a dedicated stream of Analytical chemistry that is also reflected in the content of the practical class. The material covered in the second year is challenging, it builds on the content of year 1 and extends the complexity and depth of study to allow study and analysis of real world problems. Much of the material introduced in year 2 is still regarded as fundamental and a thorough understanding of the content is required for study in year 3.</p> <p>Studied at NUIST or UoR</p>
Part 3:	<p>Gives you the opportunity to begin to see the application of Chemistry at the forefront its applications. The content is deliberately broad, covering all 4 streams of the discipline. The material is now beginning to become more specialised and you will experience this through study of a series of smaller self-contained units within your core modules. The final year relies heavily on accumulated knowledge built up in years 1 and 2.</p> <p>The main component of the final year will comprise the research project. Whether in a team or as an individual researcher, you will have a chance to undertake a piece of research work that is your own. You will work with an assigned academic supervisor who will advise and encourage you to develop the work to its fullest extent that the time limits permit. You will be given a choice of the area in which you undertake your project work, more details of this can be found in the project handbook.</p> <p>Studied at NUIST or UoR</p>

### Module information

Each part comprises 120 credits, allocated across a range of compulsory and optional modules as shown below. Compulsory modules are listed.

#### Foundation modules:

Module	Name	Credits	Level
CH0NU1	Fundamental Chemistry	20	0
IF0NU1	English for Academic Purposes 1	60	0
IF0NU2	English for Academic Purposes 2	40	0

#### Part 1 Modules:

Module	Name	Credits	Level
CH1CC1NU	Chemical Concepts and Skills 1 (NUIST)	20	4
CH1IN1NU	Fundamentals of Atomic Structure and the Periodic Table (NUIST)	20	4
CH1OR1NU	Shape, Structure and Reactivity in Organic Chemistry (NUIST)	20	4
CH1PH1NU	Physical Processes and Molecular Organisation (NUIST)	20	4
CH1PRANU	Laboratory Skills for Chemists (NUIST)	30	4
IF1NUC	English for Chemists	10	4

### Part 2 Modules:

For Part 2 at NUIST

Module code	Name	Credits	Level
CH2IN1NU	Further Inorganic Chemistry	20	5
CH2PH1NU	Further Physical Chemistry	20	5
CH2OR1NU	Further Organic Chemistry	20	5
CH2AN3NU	Analytical Chemistry	10	5
CH2ECNU	Extended Experimental Chemistry	30	5
CH2ENNU	Environmental Chemistry	10	5
CH2MENU	Medicinal Chemistry	10	5
IF1C2NU	English for Chemists 2 (NUIST)	0	4

For Part 2 at UoR

Module code	Name	Credits	Level
CH2IN1	Further Inorganic Chemistry	20	5
CH2PH1	Further Physical Chemistry	20	5
CH2OR1	Further Organic Chemistry	20	5
CH2AN3	Analytical Chemistry	10	5
CH2PRAC	Extended Laboratory Skills for Chemists	30	5
CH2MC2	Medicinal Chemistry 2 for Chemists	10	5

Students select one 10 credit module from a list provided by the School of Chemistry Food and Pharmacy.

If you take a year-long placement or study abroad, Part 3 as described below may be subject to variation.

### Part 3 Modules:

For Part 3 at NUIST

<b>Module code</b>	<b>Name</b>	<b>Credits</b>	<b>Level</b>
IF3NUCNU	English for Chemists 3	10	6
CH3NUINU	Health and Safety and Professional Skills	10	6
CH3PRANU	Advanced Laboratory Skills	20	6
CH3PRJNU	Research Project	40	6
CH3I1NU	D and F block chemistry	10	6
CH3O2NU	Advanced Organic Chemistry - Contemporary Synthetic Methodology	10	6
CH3P1NU	Advanced Topics in Physical Chemistry 1	10	6
CH3AN1NU	X-ray Techniques and Databases in Analytical Chemistry	10	6

For Part 3 at UoR

<b>Module code</b>	<b>Name</b>	<b>Credits</b>	<b>Level</b>
IF3NUC	English for Chemists 3	10	6
CH3NUI	Health and Safety and Professional Skills	10	6
CH3PRA	Advanced Laboratory Skills	20	6
CH3PRJ	Research Project	40	6
CH3I1	D and F block chemistry	10	6
CH3O2	Advanced Organic Chemistry - Contemporary Synthetic Methodology	10	6
CH3P1	Advanced Topics in Physical Chemistry 1	10	6
CH3AN1	X-ray Techniques and Databases in Analytical Chemistry	10	6

**Optional modules:**

The optional modules available can vary from year to year. An indicative list of the range of optional modules for your programme can be found online in the Course Catalogue. Details of optional modules for each part, including any additional costs associated with the optional modules, will be made available to you prior to the beginning of the Part in which they are to be taken and you will be given an opportunity to express interest in the optional modules that you would like to take. Entry to optional modules will be at the discretion of

the University and subject to availability and may be subject to pre-requisites, such as completion of another module. Although the University tries to ensure you are able to take the optional modules in which you have expressed interest this cannot be guaranteed.

### **Additional costs of the programme**

During your programme of study you will incur some additional costs.

At NUIST: There will be some additional costs if you require printing facilities at NUIST, there may also be additional costs if your programme involves a field trip whilst at NUIST. Details of costs can be found at the NUIST help desk.

At UoR: Printing and photocopying facilities are available on campus at a cost per A4 page of £0.05 (black and white) and £0.30 (colour). Essential costs in this area will be low as most coursework will be submitted electronically

Costs are indicative and may vary according to optional modules chosen and are subject to inflation and other price fluctuations.

The estimates were calculated in 2020.

### **Placement opportunities**

N/A

### **Teaching and learning delivery:**

In Part 0 you will be taught through classes, using a communicative approach to language learning, with an emphasis on meaning, task completion, interaction and feedback. You will also have a number of tutorials, and carry out supervised project work. Total study hours for Part 0 will be a minimum of 1200 hours.

Modules in Part 0 are taught by Academy staff in Nanjing.

For Part 1, 2 and 3 you will be taught primarily through a mixture of lectures, tutorials and seminars, depending on the modules you choose. Some modules may include group work.

Modules in Nanjing are taught by a combination of Academy staff and visiting staff from the University of Reading.

Total study hours for each Part of your programme will be a minimum of 1200 hours. The contact hours for your programme will depend upon your module combination; an average for a typical set of modules on this programme is Part 2 - 156 hours (for students studying at UoR), Part 3 - 156 hours (for student studying at UoR).

For students studying at NUIST contact hours will vary, in general a 10 credit module will have 3 contact hours per week over 16 weeks.

In addition to your scheduled contact hours, you will be expected to undertake guided independent study. Information about module contact hours and the amount of independent study which a student is normally expected to undertake for a module is indicated in the relevant module description.

### **Accreditation details**

N/A

### **Assessment**

For Part 0 you will be assessed through a combination of written exams and coursework. Some modules may be assessed by 100% coursework whereas others contain a mixture of both coursework and exam at varying ratios.

Part 1, 2 and 3 will be assessed through a combination of examinations and coursework

### **Progression**

Part 0 Foundation year

In order to complete Part 0 successfully, students are required to:

- (i) obtain a mark of at least 40% in IF0NU1 and CH0NU1.
- (ii) obtain a mark of at least 5.5 in IF0NU2 with no element (Speaking, Listening, Reading and Writing) below 5.0.

Students who obtain 6.0 in IF0NU2, with no element (Speaking, Listening, Reading and Writing) below 5.5 will be deemed to have met the English language progression requirement to Part 2 and will be exempted from the mandatory Year 1 non-credit EAP module.

Successful completion of these modules will lead to progression to Year 1 of the student's chosen degree programme.

The University-wide rules relating to 'threshold performance' are as follows:

Part 1

To gain a threshold performance at Part 1, a student shall normally be required to:

- (i) obtain an overall average of 40% in 120 credits
- (ii) obtain a mark of at least 30% in individual modules amounting to at least 100 credits taken in Part 1.
- (iii) obtain 6.0 in TEEP on IF1NU3A (where taken), with no element (Speaking, Listening, Reading and Writing) below 5.5.

In order to progress from Part 1 to Part 2, a student must achieve a threshold performance; and

(iv) obtain a mark of at least 40% in CH1PRANU.

In order to progress from Part 2 to Part 3 in the 3 year programme, a student must achieve a threshold performance, and;

(i) obtain a mark of at least 40% in CH2PRAC, (Reading-based students) or CH2ECNU (NUIST-based students).

Part 2

To gain a threshold performance at Part 2, a student shall normally be required to:

- (i) obtain a weighted average of 40% over 120 credits taken at Part 2; and
- (ii) obtain marks of at least 40% in individual modules amounting to at least 80 credits; and
- (iii) obtain marks of at least 30% in individual modules amounting to at least 120 credits, except that a mark below 30% may be condoned in no more than 20 credits of modules owned by the Department of Mathematics and Statistics.

In order to progress from Part 2 to Part 3 in the 3 year programme, a student must achieve a threshold performance.

**The University's Honours classification is as follows:**

### **Classification**

Bachelors' degrees The University's honours classification scheme is based on the following:

<b>Mark</b>	<b>Interpretation</b>
<b>70-100%</b>	<b>First Class</b>
<b>60-69%</b>	<b>Upper Second Class</b>
<b>50-59%</b>	<b>Lower Second Class</b>
<b>40-49%</b>	<b>Third Class</b>
<b>35% - 39%</b>	<b>Below Honours Standard</b>
<b>0 - 34%</b>	<b>Fail</b>

The weighting of the Parts/Years in the calculation of the degree classification is:

Part 2: one-third

Part 3: two-thirds

### **Dual Awards**

Successful completion of the Programme will lead to the award of degrees by both the University of Reading and Nanjing University of Information Science and Technology.



Modules completed at Part 2 and Part 3 regardless of place of study, will contribute to the classification of degrees.

**For further information about your Programme please refer to the Programme Handbook and the relevant module descriptions, which are available at <http://www.reading.ac.uk/module/>. The Programme Handbook and the relevant module descriptions do not form part of your Terms and Conditions with the University of Reading.**

BSc Applied Chemistry (NUIST-UoR Academy) NUIST-based (full-time) for students entering Part 1 in session 2021/22

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