



Programme Specification (Undergraduate)

FOR ENTRY YEAR: 2021/22

Date created: Click or tap here to enter text.
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Last amended: 07/04/2021

Version no. Choose an

1. Programme title(s) and code(s):

BSc Chemistry

a) [HECOS Code](#)

HECOS Code	%

b) UCAS Code (where required)

BSc Chemistry F100

2. Awarding body or institution:

University of Leicester

3. a) Mode of study

Full-time

b) Type of study

Campus-based based in Panjin campus, DUT, PRC

4. Registration periods:

BSc Chemistry

The normal period of registration is four years.

The maximum period of registration is six years.

5. Typical entry requirements

All students that have followed the Chinese school and qualification system must be from the same Gaokao group (the top group out of four) as students entering other DUT undergraduate programmes. Students must also possess a sufficient level of English language to enable such students to undertake studies with the English language as the teaching medium. For Year 1 entry, a Gaokao English language score of 70% for English language or an IELTS score of 5.0 will be required. After intensive English language teaching in Year 1, students will be required to demonstrate CEFR Level B2 in English language (otherwise IELTS 6.0).

6. Accreditation of Prior Learning

APL will not be accepted for exemptions from individual modules, however may be considered for direct entry to year 2, on a case by case and subject to the general provisions of the University APL policy.

7. Programme aims

The programme aims to provide a broad and in-depth understanding of ideas central to chemistry

- To provide students with direct experience of a UK-style degree programme
- To enhance and develop the students' English language skills
- To train students in the practical skills necessary for the safe manipulation of chemicals
- To generate interest in, and understanding of, the wider role of chemistry in society e.g. industry and commerce
- To enable students to develop independent learning skills as well as the experience of working as part of a team
- To stimulate intellectual development, develop powers of critical analysis and ability to solve problems
- To enhance written and oral communication skills
- To provide students with training in mathematical techniques and IT skills
- To introduce students to chemical research methodology through carrying out a research project
- To introduce students to some topics of current chemical or chemical engineering research
- To equip students with the knowledge and generic skills for employment or further training in R&D, science-based industry and establishments, education, and for training at management levels in other professions.

8. Reference points used to inform the programme specification

QAA Frameworks for Higher Education Qualifications in England Wales and Northern Ireland

- QAA Benchmark Statement for [Chemistry 2014](#)
- QAA subject review
- PDR report (May 2011)
- [University Learning Strategy](#)
- University Employability Strategy
- NSS 2014
- First destination survey
- External examiners reports
- RSC accreditation [<http://www.rsc.org/Education/courses-and-careers/accredited-courses/index.asp>],

9. Programme Outcomes

Unless otherwise stated, programme outcomes apply to all awards specified in 1. Programme title(s).

a) Discipline specific knowledge and competencies

- i) Mastery of an appropriate body of knowledge

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Typical students should be able to: recall and apply basic chemistry theory across all three main areas of chemistry (organic, inorganic and physical) and related mathematics; solve structured and unseen model problems; conduct experiments and apply practical techniques.	Lectures; Directed reading; Problem classes; Tutorials; Laboratory Practical Classes; Computer aided training.	Written exams; assessed practical work; assessed computer exercises; assessed problems; tutorial work

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Typical students should have detailed knowledge of selected topics in five areas of chemistry (analytical, chemical engineering, organic, inorganic and physical).	Lectures; Directed reading; Problem classes; Computer aided training; Project supervision	Written exams; assessed computer exercises; project assessment.

ii) Understanding and application of key concepts and techniques

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Typical students should be able to: apply chemical concepts in new situations e.g. ability to predict physical and chemical properties by comparison with analogues; apply logic and chemical knowledge to make deductions based on (limited) evidence; solve familiar and unfamiliar chemistry related problems; design, construct and undertake experiments; demonstrate professional use of standard equipment and knowledge of and application of safety procedures.	Lectures; Directed Reading; Problem Classes; Tutorials; Laboratory Practical Classes; Computer aided learning; Project supervision.	Written exams; assessed practical work, including lab samples, associated data, lab notebooks and reports; assessed computer exercises; assessed problems; tutorial work; project assessment.

iii) Critical analysis of key issues

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Typical students should be able to: critically appraise physical and chemical information, and discuss its limitations; summarise key findings of scientific papers; draw quantitative conclusions from sample data; critically assess and compare scientific theories	Progressively through the programme, particularly in the 4 th year. Lectures; Problem Classes; Tutorials; Laboratory Practical Classes; Group projects; Computer aided learning; Project supervision.	Written exams; assessed practical work, including lab samples, associated data, lab notebooks and reports; assessed computer exercises; assessed problems; tutorial work; project assessment.

iv) Clear and concise presentation of material

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Typical students should be able to: present scientific ideas, data and results in a variety of (appropriate) forms, e.g. reports, seminars, posters; use chemical software, e.g. drawing, molecular modelling; participate in scientific discussion and debate.	Tutorials, Laboratory Practical Classes; Group projects; Problem classes; Project supervision.	Assessed practical work, including lab samples, associated data, lab notebooks and reports; assessed computer exercises; assessed problems; tutorial work; project assessment.

v) Critical appraisal of evidence with appropriate insight

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Typical students should be able to: discuss and implement experimental methodology; collect and critically analyse data; draw valid inferences from data; interrogate and discuss scientific literature.	Tutorials, Laboratory Practical Classes; Group projects; Problem classes; Project supervision.	Assessed practical work, including lab samples, associated data, lab notebooks and reports; assessed computer exercises; assessed problems; tutorial work; project assessment.

vi) Other discipline specific competencies

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Typical students should be able to: respond to questioning; give a short seminar.	Tutorials: Group project supervision; Project supervision	Tutorial work; project assessment.

b) Transferable skills

i) Oral communication

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
In English, typical students should be able to: give reasoned arguments in response to chemical questions; give a short seminar on a chemical topic	Tutorials; Group work; Group project supervision; Project supervision	Tutorial work; Oral project presentations and examinations

ii) Written communication

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
In English, typical students should be able to: write abstracts, tutorial and problem class work, lab notebooks, lab reports and project dissertation; communicate scientifically.	Lectures; Tutorials; Practical classes; Group work; Writing workshops; Project supervision.	Assessed practical work, including lab samples, associated data, lab notebooks and reports; assessed computer exercises; assessed problems; assessed essays; tutorial work; project assessment.

iii) Information technology

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Typical students should be able to: use mathematical packages for data analysis; use spreadsheets, presentation and word processing facilities; use scientific software packages, e.g. drawing or molecular modelling.	Problem classes; Practical classes; Group work; Project supervision	Assessed practical work; assessed computer exercises; project assessment.

iv) Numeracy

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Typical students should be able to: use analytical and graphical methods; use calculus in Chemistry and Chemical Engineering; analyse data; solve numerical problems.	Progressively throughout course.	Written exams; assessed practical work, including lab samples, associated data, lab notebooks and reports; assessed computer exercises; assessed problems; tutorial work; project assessment.

v) Team working

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Typical students should be able to: discuss concepts and formulate plans working with peers; organize time and tasks; produce joint reports/presentations; recognize individual strengths.	Group problem solving; Group projects; Project supervision	Group assessments (oral and written); project assessment.

vi) Problem solving

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Typical students should be able to: apply knowledge; analyse and solve familiar and unfamiliar problems; plan and implement laboratory work and projects.	Lectures; Problem Classes; Tutorials; Laboratory Practical Classes; Computer aided learning; Project supervision.	Written exams; assessed practical work; assessed computer exercises; assessed problems; tutorial work; project assessment.

vii) Information handling

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Typical students should be able to: describe and discuss the scientific method; gather, retrieve, manipulate and analyse chemical data and information from a variety of sources including scientific journals and databases; present data in appropriate forms.	Lectures; Problem Classes; Tutorials; Laboratory Practical Classes; Computer aided learning; Project supervision.	Written exams; assessed practical work; assessed computer exercises; assessed problems; tutorial work; project assessment.

viii) Skills for lifelong learning

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Typical students should be able to: demonstrate understanding of the professional responsibilities of a chemist; develop their study and time management skills; learn independently; access and search scholarly articles and databases; retrieve information; analyse data; work in groups; plan and implement group and individual activities.	Progressively through the programme, particularly in the 4 th year. Lectures; Problem Classes; Tutorials; Laboratory Practical Classes; Group projects; Computer aided learning; Project supervision.	Meeting deadlines; All assessment elements; Project assessment.

10. Progression points

This programme follows the standard Scheme of Progression set out in [Senate Regulations](#) – see the version of Senate Regulation 5 governing undergraduate programmes relevant to the year of entry.

Additional progression criteria include:-

- Students must pass the English language modules in year 1, which cannot be carried into year 2.
- Students must pass each of the chemistry laboratory practical modules in years 2 and 3, for which there are no opportunities for reassessment, and which cannot be carried into the subsequent year. These modules have an additional attendance requirement wherein students may not be absent for more than 25% of the scheduled laboratory classes. Additional “catch-up” sessions will be provided for students for whom non-attendance has been mitigated.

In cases where a student has failed to meet a requirement to progress he or she will be required to withdraw from the course.

Transfer between different degrees: Students not satisfying the UoL progression requirements may be allowed to transfer onto DUT programmes. Students satisfying the UoL progression requirements may be allowed to transfer to the University of Leicester campus-based BSc Chemistry degree programme, subject to capacity and physical resource limitations on the UoL campus.

c) Course transfers

n/a

11. Criteria for award and classification

This programme follows the standard scheme of undergraduate award and classification set out in [Senate Regulations](#) – see the version of *Senate Regulation 5 governing undergraduate programmes* relevant to the year of entry.

12. Special features

Programme delivered entirely in English with UK-style facilities provided on Panjin campus, Small group tutorials via simultaneous on-line classroom approaches, group problem solving, research-based projects, problem based learning.

13. Indications of programme quality

All current BSc degrees were accredited by the Royal Society of Chemistry (RSC) in Jan 2016. It is our intention to seek accreditation from the RSC for this BSc Chemistry programme during the next accreditation review.

14. External Examiner(s) reports

The details of the External Examiner(s) for this programme and the most recent External Examiners' reports for this programme can be found at exampapers@Leicester [log-in required]

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Appendix 1: Programme structure (programme regulations)

The University regularly reviews its programmes and modules to ensure that they reflect the current status of the discipline and offer the best learning experience to students. On occasion, it may be necessary to alter particular aspects of a course or module.

BSc Chemistry

Level 7/Year 1 2021/22

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	n/a	60 credits	60 credits
Optional	n/a	n/a	n/a

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Sem 1	EL0002	ENGLISH FOR GENERAL ACADEMIC PURPOSE	45 credits
Sem 1	CH0280	ADVANCED MATHEMATICS I	15 credits
Sem 1		MILITARY THEORY AND TRAINING	n/a
Sem 1		MORAL CULTIVATION AND BASIC LAW	n/a
Sem 1		PHYSICAL EDUCATION I	n/a
Sem 2	EL0005	ENGLISH FOR SPECIFIC ACADEMIC PURPOSES	15 credits
Sem 2	CH0061	INTRODUCTION TO CHEMISTRY	30 credits

Delivery period	Code	Title	Credits
Sem 2	CH0281	ADVANCED MATHEMATICS II	15 credits
Sem 2		CHINESE MODERN CONTEMPORARY HISTORY AND SITUATION POLICY	n/a
Sem 2		PHYSICAL EDUCATION II	n/a
Sem 3		COLLEGE STUDENT MENTAL HEALTH AND HEALTH EDUCATION	n/a

Level 7/Year 2 2022/23

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	15 credits	60 credits	45 credits
Optional	n/a	n/a	n/a

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Year long	CH1205	INTRODUCTORY CHEMISTRY PRACTICAL B	15 credits
Sem 1	CH1200	GENERAL CHEMISTRY	15 credits
Sem 1	CH1202	INTRODUCTORY INORGANIC CHEMISTRY	15 credits
Sem 1	CH1283	COLLEGE PHYSICS AND PRACTICAL A	15 credits
Sem 1	CH1282	ADVANCED MATHEMATICS III	15 credits
Sem 1		COLLEGE COMPUTING	n/a
Sem 1		PRINCIPLE OF MARXISM AND THEORY OF SOCIALISM	n/a
Sem 2	CH1201	INTRODUCTORY ORGANIC CHEMISTRY	15 credits

Delivery period	Code	Title	Credits
Sem 2	CH1203	INTRODUCTORY PHYSICAL CHEMISTRY	15 credits
Sem 2	CH1284	COLLEGE PHYSICS AND PRACTICAL B	15 credits
Sem 2		INTRODUCTION TO MAOISM AND THEORY OF SOCIALISM	n/a
Sem 2		GENERAL OPTIONAL COURSE 1	n/a
Sem 3		COGNITION PRACTICAL	n/a

Notes

CH1205 split approximately 5 credits Sem 1, 10 credits Sem 2

Level 7/Year 3 2023/24

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	n/a	60 credits	60 credits
Optional	n/a	n/a	n/a

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Sem 1	CH2200	SPECTROSCOPY THEORY AND PRACTICE	15 credits
Sem 1	CH2201	ORGANIC CHEMISTRY	15 credits
Sem 1	CH2280	PRINCIPLES OF CHEMICAL ENGINEERING AND PRACTICAL I	15 credits
Sem 1	CH2284	PRACTICAL CHEMISTRY AND KEY SKILLS PART A	15 credits
		BIOCHEMISTRY	N/a
		BIOCHEMISTRY PRACTICAL	N/a
Sem 2	CH2202	INORGANIC CHEMISTRY	15 credits
Sem 2	CH2203	PHYSICAL CHEMISTRY	15 credits
Sem 2	CH2281	PRINCIPLES OF CHEMICAL ENGINEERING AND PRACTICAL II	15 credits
Sem 2	CH2285	PRACTICAL CHEMISTRY AND KEY SKILLS PART B	15 credits
Sem 2		GENERAL OPTIONAL COURSE 2	N/a
Sem 3		PRODUCTION PRACTICAL	N/a

Notes

n/a

Level 7/Year 4 2024/25**YEAR 4**

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	n/a	45 credits	60 credits
Optional	Choose an item.	15 credits	n/a

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Sem 1	CH3201	ADVANCED ORGANIC CHEMISTRY	15 credits
Sem 1	CH3202	ADVANCED INORGANIC CHEMISTRY	15 credits
Sem 1	CH3203	ADVANCED PHYSICAL CHEMISTRY	15 credits
Sem 1		GENERAL OPTIONAL COURSE 3	15 credits
Sem 2	CH3205	METALS IN SYNTHESIS	15 credits
Sem 2	CH3851	FINAL YEAR PROJECT PART I	30 credits
Sem 2	CH3852	FINAL YEAR PROJECT PART II	15 credits

Notes*Year Long modules sequenced to result in approximately equal workload across Semester 1 and 2*

Option modules

Delivery period	Code	Title	Credits
Sem 1	CH3206	ADVANCED ANALYTICAL CHEMISTRY	15 credits
Sem 1	CH3280	POLYMER CHEMISTRY AND PHYSICS	15 credits

Notes

Chose one from the 2 choices listed above.

This is an indicative list of option modules and not definitive of what will be available. Option module choice is also subject to availability, timetabling, student number restrictions and, where appropriate, students having taken appropriate pre-requisite modules.

Level 7/Year 1 2021/22

(2+2 students are at DUT (Panjin))

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	n/a	60 credits	60 credits
Optional	n/a	n/a	n/a

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Sem 1	EL0002	ENGLISH FOR GENERAL ACADEMIC PURPOSE	45 credits

Delivery period	Code	Title	Credits
Sem 1	CH0280	ADVANCED MATHEMATICS I	15 credits
Sem 1		MILITARY THEORY AND TRAINING	
Sem 1		MORAL CULTIVATION AND BASIC LAW	
Sem 1		PHYSICAL EDUCATION I	
Sem 2	EL0005	ENGLISH FOR SPECIFIC ACADEMIC PURPOSES	15 credits
Sem 2	CH0061	INTRODUCTION TO CHEMISTRY	30 credits
Sem 2	CH0281	ADVANCED MATHEMATICS II	15 credits
Sem 2		CHINESE MODERN CONTEMPORARY HISTORY AND SITUATION POLICY	
Sem 2		PHYSICAL EDUCATION II	
Sem 3		COLLEGE STUDENT MENTAL HEALTH AND HEALTH EDUCATION	

Notes

n/a

Level 7/Year 2 2022/23

(2+2 students are at DUT (Panjin))

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	15 credits	60 credits	45 credits
Optional	n/a	n/a	n/a

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Sem 1	CH1200	GENERAL CHEMISTRY	15 credits
Sem 1	CH1202	INTRODUCTORY INORGANIC CHEMISTRY	15 credits
Sem 1	CH1283	COLLEGE PHYSICS AND PRACTICAL A	15 credits
Sem 1	CH1282	ADVANCED MATHEMATICS III	15 credits
Sem 1		COLLEGE COMPUTING	n/a
Sem 1		PRINCIPLE OF MARXISM AND THEORY OF SOCIALISM	n/a
Sem 2	CH1201	INTRODUCTORY ORGANIC CHEMISTRY	15 credits
Sem 2	CH1203	INTRODUCTORY PHYSICAL CHEMISTRY	15 credits
Sem 2	CH1284	COLLEGE PHYSICS AND PRACTICAL B	15 credits
Sem 2		INTRODUCTION TO MAOISM AND THEORY OF SOCIALISM	n/a

Delivery period	Code	Title	Credits
Sem 2		GENERAL OPTIONAL COURSE 1	n/a
Sem 3		COGNITION PRACTICAL	n/a
Year Long	CH1205	INTRODUCTORY CHEMISTRY PRACTICAL B	15 credits

Notes

CH1205 split approximately 5 credits Sem 1, 10 credits Sem 2

Level 7/Year 3 2023/24

(2+2 students are at the University of Leicester)

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	75 credits	30 credits	15 credits
Optional	Choose an item.	Choose an item.	n/a

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Sem 1	CH2200	SPECTROSCOPY THEORY AND PRACTICE	15 credits
Sem 1	CH2207	POLYMER AND MATERIALS CHEMISTRY	15 credits
Sem 2	CH2206	ANALYTICAL CHEMISTRY IN PRACTICE	15 credits
Sem 2	CH1209	INTRODUCTORY PHARMACEUTICAL CHEMISTRY	n/a

Delivery period	Code	Title	Credits
Sem 3		PRODUCTION PRACTICAL	n/a
Year Long	CH2201	ORGANIC CHEMISTRY	15 credits
Year Long	CH2202	INORGANIC CHEMISTRY	15 credits
Year Long	CH2203	PHYSICAL CHEMISTRY	15 credits
Year Long	CH2204	PRACTICAL CHEMISTRY AND KEY SKILLS	30 credits

Notes

Year Long modules sequenced to result in approximately equal workload across Semester 1 and 2

Level 7/Year 4 2024/25

(2+2 students are at University of Leicester)

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	30 credits	45 credits	30 credits
Optional	n/a	n/a	15 credits

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Sem 1	CH3201	ADVANCED ORGANIC CHEMISTRY	15 credits
Sem 1	CH3202	ADVANCED INORGANIC CHEMISTRY	15 credits

Delivery period	Code	Title	Credits
Sem 1	CH3261	BSC PROJECT PRACTICAL	15 credits
Sem 2	CH3203	ADVANCED PHYSICAL CHEMISTRY	15 credits
Sem 2	CH3205	METALS IN SYNTHESIS	15 credits
Year Long	CH3260	BSc GENERAL PAPER & KEY SKILLS	15 credits
Year Long	CH3262	BSC PROJECT REPORT	15 credits

Notes

n/a

Option modules

Delivery period	Code	Title	Credits
Sem 1	CH3206	ADVANCED ANALYTICAL CHEMISTRY	15 credits
Sem 1	CH3208	ADVANCED MATERIALS CHEMISTRY	15 credits

Notes

Chose one from the 2 choices listed above.

This is an indicative list of option modules and not definitive of what will be available. Option module choice is also subject to availability, timetabling, student number restrictions and, where appropriate, students having taken appropriate pre-requisite modules.

Level 7/Year 1 2021/22**(2+1+1 students are at DUT (Panjin))**

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	n/a	60 credits	60 credits
Optional	n/a	n/a	n/a

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Sem 1	EL0002	ENGLISH FOR GENERAL ACADEMIC PURPOSE	45 credits
Sem 1	CH0280	ADVANCED MATHEMATICS I	15 credits
Sem 1		MILITARY THEORY AND TRAINING	
Sem 1		MORAL CULTIVATION AND BASIC LAW	
Sem 1		PHYSICAL EDUCATION I	
Sem 2	EL0005	ENGLISH FOR SPECIFIC ACADEMIC PURPOSES	15 credits
Sem 2	CH0061	INTRODUCTION TO CHEMISTRY	30 credits
Sem 2	CH0281	ADVANCED MATHEMATICS II	15 credits
Sem 2		CHINESE MODERN CONTEMPORARY HISTORY AND SITUATION POLICY	
Sem 2		PHYSICAL EDUCATION II	
Sem 3		COLLEGE STUDENT MENTAL HEALTH AND HEALTH EDUCATION	

Notes

CH1205 split approximately 5 credits Sem 1, 10 credits Sem 2

Level 7/Year 2 2022/23

(2+1+1 students are at DUT (Panjin))

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	15 credits	60 credits	45 credits
Optional	n/a	n/a	n/a

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Sem 1	CH1200	GENERAL CHEMISTRY	15 credits
Sem 1	CH1202	INTRODUCTORY INORGANIC CHEMISTRY	15 credits
Sem 1	CH1283	COLLEGE PHYSICS AND PRACTICAL A	15 credits
Sem 1	CH1282	ADVANCED MATHEMATICS III	15 credits
Sem 1		COLLEGE COMPUTING	15 credits
Sem 1		PRINCIPLE OF MARXISM AND THEORY OF SOCIALISM	15 credits
Sem 2	CH1201	INTRODUCTORY ORGANIC CHEMISTRY	15 credits
Sem 2	CH1203	INTRODUCTORY PHYSICAL CHEMISTRY	15 credits
Sem 2	CH1284	COLLEGE PHYSICS AND PRACTICAL B	15 credits
Sem 2		INTRODUCTION TO MAOISM AND THEORY OF SOCIALISM	15 credits

Delivery period	Code	Title	Credits
Sem 2		GENERAL OPTIONAL COURSE 1	15 credits
Sem 3		COGNITION PRACTICAL	15 credits
Year Long	CH1205	INTRODUCTORY CHEMISTRY PRACTICAL B	15 credits

Notes

CH1205 split approximately 5 credits Sem 1, 10 credits Sem 2

Level 7/Year 3 2023/24

(2+1+1 students are at the University of Leicester)

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	75 credits	30 credits	15 credits
Optional	Choose an item.	Choose an item.	n/a

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Sem 1	CH2200	SPECTROSCOPY THEORY AND PRACTICE	15 credits
Sem 1	CH2207	POLYMER AND MATERIALS CHEMISTRY	15 credits
Sem 2	CH2206	ANALYTICAL CHEMISTRY IN PRACTICE	15 credits
Sem 2	CH1209	INTRODUCTORY PHARMACEUTICAL CHEMISTRY	n/a

Delivery period	Code	Title	Credits
Sem 3		PRODUCTION PRACTICAL	n/a
Year Long	CH2201	ORGANIC CHEMISTRY	15 credits
Year Long	CH2202	INORGANIC CHEMISTRY	15 credits
Year Long	CH2203	PHYSICAL CHEMISTRY	15 credits
Year Long	CH2204	PRACTICAL CHEMISTRY AND KEY SKILLS	30 credits

Notes

Year Long modules sequenced to result in approximately equal workload across Semester 1 and 2

Level 7/Year 4 2024/25

(2+1+1 students are at DUT (Panjin))

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	n/a	45 credits	60 credits
Optional	n/a	15 credits	n/a

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Sem 1	CH3201	ADVANCED ORGANIC CHEMISTRY	15 credits
Sem 1	CH3202	ADVANCED INORGANIC CHEMISTRY	15 credits

Delivery period	Code	Title	Credits
Sem 1	CH3203	ADVANCED PHYSICAL CHEMISTRY	15 credits
Sem 1		GENERAL OPTIONAL COURSE 3	n/a
Sem 2	CH3205	METALS IN SYNTHESIS	15 credits
Sem 2	CH3851	FINAL YEAR PROJECT PART I	30 credits
Sem 2	CH3852	FINAL YEAR PROJECT PART II	15 credits

Notes

n/a

Option modules

Delivery period	Code	Title	Credits
Sem 1	CH3206	ADVANCED ANALYTICAL CHEMISTRY	15 credits
Sem 1	CH3280	POLYMER CHEMISTRY AND PHYSICS	15 credits

Notes

Chose one from the 2 choices listed above.

This is an indicative list of option modules and not definitive of what will be available. Option module choice is also subject to availability, timetabling, student number restrictions and, where appropriate, students having taken appropriate pre-requisite modules.

Level 7/Year 1 2021/22**(3+1 students are at DUT (Panjin))**

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	n/a	60 credits	60 credits
Optional	n/a	n/a	n/a

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Sem 1	EL0002	ENGLISH FOR GENERAL ACADEMIC PURPOSE	45 credits
Sem 1	CH0280	ADVANCED MATHEMATICS I	15 credits
Sem 1		MILITARY THEORY AND TRAINING	n/a
Sem 1		MORAL CULTIVATION AND BASIC LAW	n/a
Sem 1		PHYSICAL EDUCATION I	n/a
Sem 2	EL0005	ENGLISH FOR SPECIFIC ACADEMIC PURPOSES	15 credits
Sem 2	CH0061	INTRODUCTION TO CHEMISTRY	30 credits
Sem 2	CH0281	ADVANCED MATHEMATICS II	15 credits
Sem 2		CHINESE MODERN CONTEMPORARY HISTORY AND SITUATION POLICY	n/a
Sem 2		PHYSICAL EDUCATION II	n/a
Sem 3		COLLEGE STUDENT MENTAL HEALTH AND HEALTH EDUCATION	n/a

Notes

n/a

Level 7/Year 2 2022/23**(3+1 students are at DUT (Panjin))**

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	15 credits	60 credits	45 credits
Optional	n/a	n/a	n/a

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Sem 1	CH1200	GENERAL CHEMISTRY	15 credits
Sem 1	CH1202	INTRODUCTORY INORGANIC CHEMISTRY	15 credits
Sem 1	CH1283	COLLEGE PHYSICS AND PRACTICAL A	15 credits
Sem 1	CH1282	ADVANCED MATHEMATICS III	15 credits
Sem 1		COLLEGE COMPUTING	n/a
Sem 1		PRINCIPLE OF MARXISM AND THEORY OF SOCIALISM	15 credits
Sem 2	CH1201	INTRODUCTORY ORGANIC CHEMISTRY	15 credits
Sem 2	CH1203	INTRODUCTORY PHYSICAL CHEMISTRY	15 credits
Sem 2	CH1284	COLLEGE PHYSICS AND PRACTICAL B	n/a
Sem 2		INTRODUCTION TO MAOISM AND THEORY OF SOCIALISM	n/a

Delivery period	Code	Title	Credits
Sem 2		GENERAL OPTIONAL COURSE 1	n/a
Sem 3		COGNITION PRACTICAL	n/a
Year Long	CH1205	INTRODUCTORY CHEMISTRY PRACTICAL B	15 credits

Notes

CH1205 split approximately 5 credits Sem 1, 10 credits Sem 2

Level 7/Year 3 2023/24

(3+1 students are at DUT (Panjin))

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	n/a	60 credits	60 credits
Optional	n/a	n/a	n/a

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Sem 1	CH2200	SPECTROSCOPY THEORY AND PRACTICE	15 credits
Sem 1	CH2201	ORGANIC CHEMISTRY	15 credits
Sem 1	CH2280	PRINCIPLES OF CHEMICAL ENGINEERING AND PRACTICAL I	15 credits
Sem 1	CH2284	PRACTICAL CHEMISTRY AND KEY SKILLS PART A	15 credits
Sem 1		BIOCHEMISTRY	n/a

Delivery period	Code	Title	Credits
Sem 1		BIOCHEMISTRY PRACTICAL	n/a
Sem 2	CH2202	INORGANIC CHEMISTRY	15 credits
Sem 2	CH2203	PHYSICAL CHEMISTRY	15 credits
Sem 2	CH2281	PRINCIPLES OF CHEMICAL ENGINEERING AND PRACTICAL II	15 credits
Sem 2	CH2204	PRACTICAL CHEMISTRY AND KEY SKILLS PART B	15 credits
Sem 2		GENERAL OPTIONAL COURSE 2	n/a
Sem 3		PRODUCTION PRACTICAL	n/a

Notes

n/a

Level 7/Year 4 2024/25**(3+1 students are at University of Leicester)**

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	30 credits	45 credits	30 credits
Optional	n/a	n/a	15 credits

120 credits in total

Core modules

Delivery period	Code	Title	Credits
Sem 1	CH3201	ADVANCED ORGANIC CHEMISTRY	15 credits
Sem 1	CH3202	ADVANCED INORGANIC CHEMISTRY	15 credits
Sem 1	CH3261	BSC PROJECT PRACTICAL	15 credits
Sem 2	CH3203	ADVANCED PHYSICAL CHEMISTRY	15 credits
Sem 2	CH3205	METALS IN SYNTHESIS	15 credits
Year Long	CH3260	BSc GENERAL PAPER & KEY SKILLS	15 credits
Year Long	CH3262	BSC PROJECT REPORT	15 credits

Notes

n/a

Option modules

Delivery period	Code	Title	Credits
Sem 1	CH3206	ADVANCED ANALYTICAL CHEMISTRY	15 credits
Sem 1	CH3208	ADVANCED MATERIALS CHEMISTRY	15 credits

Notes

Chose one from the 2 choices listed above.

This is an indicative list of option modules and not definitive of what will be available. Option module choice is also subject to availability, timetabling, student number restrictions and, where appropriate, students having taken appropriate pre-requisite modules.

Appendix 2: Module specifications

See undergraduate [module specification database](#) (Note - modules are organized by year of delivery).

Appendix 3: Skills matrix

Programme Specification Appendix 3

Skills Matrix: **F100 Chemistry**

Date amended: 17th May 2017

	English for General Academic Purposes	English for Specific Academic Purposes	Foundation Chemistry	Adv Maths I	Adv Maths II	General Chemistry	Introductory Organic Chemistry	Introductory Inorganic Chemistry	Introductory Physical Chemistry	Introductory Chemistry Practical B	Adv Maths III	College Physics and Practical A	College Physics and Practical B	Spectroscopy Theory and Practice	Organic Chemistry	Inorganic Chemistry	Physical Chemistry	Chemistry Practical I	Chemistry Practical II	Principles of Chemical Engineering and Practical I	Principles of Chemical Engineering and Practical II	Advanced Organic Chemistry	Advanced Inorganic Chemistry	Advanced Physical Chemistry	Advanced Analytical Chemistry	Polymer Chemistry and Physics	Metals in Organic Synthesis	Computational Chemistry	Final Year Project I	Final Year Project III
Programme Learning Outcomes	EL0001	EL0005	CH0061	CH1280	CH1281	CH1200	CH1201	CH1202	CH1203	CH1205	CH1282	CH1283	CH1284	CH2200	CH2201	CH2202	CH2203	CH2204	CH2205	CH2800	CH2801	CH3201	CH3202	CH3203	CH3206	CH3280	CH3205	CH4207	CH3281	CH3282
(a) Discipline specific knowledge and competencies																														
(i) Mastery of an appropriate body of knowledge																														
Recall and apply basic chemistry theory across all three main areas of chemistry and related mathematics				X	X					X										X	X									
Solve structured model problems			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X									
Solve unseen model problems																				X	X	X	X	X	X	X	X	X	X	
Conduct experiments and apply practical techniques										X		X	X					X	X										X	
Advanced knowledge of selected areas of organic chemistry																					X					X	X			
Advanced knowledge of selected areas of inorganic chemistry																						X					X			
Advanced knowledge of selected areas of physical chemistry																					X		X			X		X		
Advanced knowledge of selected areas of analytical chemistry																					X			X						
(ii) Understanding and application of key concepts and techniques																														
Apply chemical concepts in new situations			X			X	X	X	X	X				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Apply logic and chemical knowledge to make deductions based on (limited) evidence														X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Design, construct and undertake experiments																			X	X									X	
Demonstrate professional use of standard equipment and knowledge of safety procedures										X		X	X					X	X	X	X								X	
(iii) Critical analysis of key issues																														
Critically appraise physical and chemical information														X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Summarise key findings of scientific papers.		X																												X
Draw quantitative conclusions from sample data									X	X		X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Critically assess and compare scientific theories																					X	X	X	X	X	X	X	X	X	X
(iv) Clear and concise presentation of material																														
Present scientific ideas, data and results in appropriate formats										X		X	X					X	X	X	X	X	X	X	X	X	X	X	X	X
Use chemical software, e.g. drawing, molecular modelling;			X							X								X	X	X	X							X	X	X
Participate in scientific discussion and debate.																												X	X	X
(v) Critical appraisal of evidence with appropriate insight																														
Discuss and implement experimental methodology									X			X	X					X	X	X	X								X	
Collect and critically analyse data;									X			X	X					X	X	X	X								X	
Draw valid inferences from data																				X	X	X	X	X	X	X	X	X	X	X
Interrogate and discuss scientific literature.														X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
(vi) Other discipline specific competencies																														
Respond to questioning	X	X																												X
Give a short seminar.	X	X																												X

	English for General Academic Purposes	English for Specific Academic Purposes	Foundation Chemistry	Adv Maths I	Adv Maths II	General Chemistry	Introductory Organic Chemistry	Introductory Inorganic Chemistry	Introductory Physical Chemistry	Introductory Chemistry: Practical B	Adv Maths III	College Physics and Practical A	College Physics and Practical B	Spectroscopy Theory and Practice	Organic Chemistry	Inorganic Chemistry	Physical Chemistry	Chemistry Practical I	Chemistry Practical II	Principles of Chemical Engineering and Practical I	Principles of Chemical Engineering and Practical II	Advanced Organic Chemistry	Advanced Inorganic Chemistry	Advanced Physical Chemistry	Advanced Analytical Chemistry	Polymer Chemistry and Physics	Metals in Organic Synthesis	Computational Chemistry	Final Year Project I	Final Year Project III
	EL0001	EL0005	CH0001	CH1200	CH1201	CH1202	CH1203	CH1204	CH1205	CH1206	CH1207	CH1208	CH1209	CH1210	CH1211	CH1212	CH1213	CH1214	CH1215	CH1216	CH1217	CH1218	CH1219	CH1220	CH1221	CH1222	CH1223	CH1224	CH1225	CH1226
Programme Learning Outcomes																														
(b) Transferable skills																														
(i) Oral communication																														
Give reasoned arguments in response to chemical questions																														
Give a short seminar on a chemical topic																														
(ii) Written communication																														
Write abstracts, tutorial and problem class work, lab notebooks, lab reports and project dissertation		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Communicate scientifically		X								X									X	X										X
(iii) Information technology																														
Use mathematical packages for data analysis				X	X					X	X	X	X					X	X	X	X									X
Use spreadsheets, presentation and word processing facilities				X	X					X		X	X					X	X	X	X									X
Use of scientific software packages, e.g. drawing or molecular modelling										X										X	X									X
(iv) Numeracy																														
Use analytical and graphical methods				X	X						X	X	X					X	X	X	X									X
Analyse data			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Solve numerical problems				X	X						X	X	X	X			X	X	X	X	X				X					
Use calculus in Chemistry				X	X												X	X	X	X	X				X					
(v) Team working																														
Discuss concepts and formulate plans working with peers; organize time and tasks; produce joint reports/presentations; recognize individual strengths.	X	X					X	X	X										X											X
(vi) Problem solving																														
Apply knowledge	X	X										X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Analyse and solve familiar and unfamiliar problems			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Plan and implement laboratory work and projects.										X		X	X					X	X	X	X									X
(vii) Information handling																														
Describe and discuss the scientific method	X	X																												X
Gather, retrieve and manipulate chemical evidence and information from a variety of sources			X											X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Use electronic scientific databases																							X							X
(viii) Skills for lifelong learning																														
Demonstrate understanding of the professional responsibilities of a chemist										X								X	X	X	X									X
Develop their study and time management skills	X	X												X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X
Learn independently															X	X	X	X	X		X	X	X	X	X	X	X	X	X	X
Access and search scholarly articles and databases	X	X												X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X
Analyse data			X							X		X	X					X	X		X	X	X	X	X	X	X	X	X	X
Plan and implement group and individual activities.	X	X																X	X		X	X	X	X	X	X	X	X	X	X