

**1. Programme Title(s) and UCAS code(s):**

BSc Chemistry F100

**2. Awarding body or institution:**

University of Leicester

**3. a) Mode of study:**

Full time

**b) Type of study:**

Campus-style based in Panjin Campus, DUT, PRC.

**4. Registration periods**

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:

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
<b>(a) Discipline specific knowledge and competencies</b>		
<b>(i) Mastery of an appropriate body of knowledge</b>		
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. 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; Tutorials; Laboratory Practical Classes; Computer aided learning.  Lectures; Directed Reading; Problem Classes; Computer aided learning; Project supervision.	Written exams; assessed practical work; assessed computer exercises; assessed problems; tutorial work.  Written exams; assessed computer exercises; project assessment.
<b>(ii) Understanding and application of key concepts and techniques</b>		
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.
<b>(iii) Critical analysis of key issues</b>		
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 <sup>th</sup> 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.

<b>Intended Learning Outcomes</b>	<b>Teaching and Learning Methods</b>	<b>How Demonstrated?</b>
<b>(iv) Clear and concise presentation of material</b>		
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.
<b>(v) Critical appraisal of evidence with appropriate insight</b>		
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.
<b>(vi) Other discipline specific competencies</b>		
Typical students should be able to: respond to questioning; give a short seminar.	Tutorials: Group project supervision; Project supervision	Tutorial work; project assessment.
<b>(b) Transferable skills</b>		
<b>(i) Oral communication</b>		
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
<b>(ii) Written communication</b>		
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.
<b>(iii) Information technology</b>		
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.
<b>(iv) Numeracy</b>		
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.
<b>(v) Team working</b>		
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.

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
<b>(vi) Problem solving</b>		
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.
<b>(vii) Information handling</b>		
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.
<b>(viii) Skills for lifelong learning</b>		
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 <sup>th</sup> 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:

Minimum assessment levels are outlined with each module specification as set out in [Senate Regulation 5](#).

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 schedule 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.

## 11. Scheme of Assessment

The programme follows the standard scheme of award and classification set out in [Senate Regulation 5](#).

## 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 Examiners**

The details of the External Examiner(s) for this programme and the most recent External Examiners' reports for the in-house BSc Chemistry programme can be found [here](#).

**Appendix 1: Programme structure** (programme regulations) (overleaf)

#### **Appendix 2: Module specifications**

See module specification database <http://www.le.ac.uk/sas/courses/documentation>

#### **Appendix 3: Skills matrix**

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**BSc Chemistry**

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**YEAR 1****SEMESTER 1**

<b>Core modules</b>		<b>Credits</b>
EL0002	ENGLISH FOR GENERAL ACADEMIC PURPOSE	45
CH0280	ADVANCED MATHEMATICS I	15
	<b>Semester Total</b>	<b>60</b>

**Additional Non-Credit Bearing Modules**

MILITARY THEORY AND TRAINING  
MORAL CULTIVATION AND BASIC LAW  
PHYSICAL EDUCATION I

**SEMESTER 2**

<b>Core modules</b>		<b>Credits</b>
EL0005	ENGLISH FOR SPECIFIC ACADEMIC PURPOSES	15
CH0061	INTRODUCTION TO CHEMISTRY	30
CH0281	ADVANCED MATHEMATICS II	15
	<b>Semester Total</b>	<b>60</b>

**Additional Non-Credit Bearing Modules**

CHINESE MODERN CONTEMPORARY HISTORY AND  
SITUATION POLICY  
PHYSICAL EDUCATION II

**SEMESTER 3****Additional Non-Credit Bearing Modules**

COLLEGE STUDENT MENTAL HEALTH AND HEALTH  
EDUCATION

## YEAR 2

### YEAR LONG MODULES

Core modules		Credits
CH1205	INTRODUCTORY CHEMISTRY PRACTICAL B	15

### SEMESTER 1

Core modules		Credits
CH1200	GENERAL CHEMISTRY	15
CH1202	INTRODUCTORY INORGANIC CHEMISTRY	15
CH1283	COLLEGE PHYSICS AND PRACTICAL A	15
CH1282	ADVANCED MATHEMATICS III	15
	<b>Semester Total</b>	<b>60</b>

### Additional Non-Credit Bearing Modules

COLLEGE COMPUTING  
PRINCIPLE OF MARXISM AND THEORY OF SOCIALISM

### SEMESTER 2

Core modules		Credits
CH1201	INTRODUCTORY ORGANIC CHEMISTRY	15
CH1203	INTRODUCTORY PHYSICAL CHEMISTRY	15
CH1284	COLLEGE PHYSICS AND PRACTICAL B	15
	<b>Semester Total</b>	<b>45</b>

### Additional Non-Credit Bearing Modules

INTRODUCTION TO MAOISM AND THEORY OF SOCIALISM  
GENERAL OPTIONAL COURSE 1

### SEMESTER 3

### Additional Non-Credit Bearing Modules

COGNITION PRACTICAL

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

## YEAR 3

### SEMESTER 1

Core modules		Credits
CH2200	SPECTROSCOPY THEORY AND PRACTICE	15
CH2201	ORGANIC CHEMISTRY	15
CH2280	PRINCIPLES OF CHEMICAL ENGINEERING AND PRACTICAL I	15
CH2284	PRACTICAL CHEMISTRY AND KEY SKILLS PART A	15
<b>Semester Total</b>		<b>60</b>

#### Additional Non-Credit Bearing Modules

BIOCHEMISTRY  
BIOCHEMISTRY PRACTICAL

### SEMESTER 2

Core modules		Credits
CH2202	INORGANIC CHEMISTRY	15
CH2203	PHYSICAL CHEMISTRY	15
CH2281	PRINCIPLES OF CHEMICAL ENGINEERING AND PRACTICAL II	15
CH2285	PRACTICAL CHEMISTRY AND KEY SKILLS PART B	15
<b>Semester Total</b>		<b>60</b>

#### Additional Non-Credit Bearing Modules

GENERAL OPTIONAL COURSE 2

### SEMESTER 3

#### Additional Non-Credit Bearing Modules

PRODUCTION PRACTICAL



## YEAR 4

### SEMESTER 1

#### Core modules

		Credits
CH3201	ADVANCED ORGANIC CHEMISTRY	15
CH3202	ADVANCED INORGANIC CHEMISTRY	15
CH3203	ADVANCED PHYSICAL CHEMISTRY	15

#### Optional modules: 1 from

CH3206	ADVANCED ANALYTICAL CHEMISTRY	15
CH3280	POLYMER CHEMISTRY AND PHYSICS	15

**Semester Total** **60**

#### Additional Non-Credit Bearing Modules

GENERAL OPTIONAL COURSE 3

### SEMESTER 2

#### Core modules

		Credits
CH3205	METALS IN SYNTHESIS	15
CH3851	FINAL YEAR PROJECT PART I	30
CH3852	FINAL YEAR PROJECT PART II	15

**Semester Total** **60**

**2+2 Route****YEAR 1 (2+2 students are at DUT (Panjin))****SEMESTER 1**

<b>Core modules</b>		<b>Credits</b>
EL0002	ENGLISH FOR GENERAL ACADEMIC PURPOSE	45
CH0280	ADVANCED MATHEMATICS I	15
	<b>Semester Total</b>	<b>60</b>

**Additional Non-Credit Bearing Modules**

MILITARY THEORY AND TRAINING  
MORAL CULTIVATION AND BASIC LAW  
PHYSICAL EDUCATION I

**SEMESTER 2**

<b>Core modules</b>		<b>Credits</b>
EL0005	ENGLISH FOR SPECIFIC ACADEMIC PURPOSES	15
CH0061	INTRODUCTION TO CHEMISTRY	30
CH0281	ADVANCED MATHEMATICS II	15
	<b>Semester Total</b>	<b>60</b>

**Additional Non-Credit Bearing Modules**

CHINESE MODERN CONTEMPORARY HISTORY AND  
SITUATION POLICY  
PHYSICAL EDUCATION II

**SEMESTER 3****Additional Non-Credit Bearing Modules**

COLLEGE STUDENT MENTAL HEALTH AND HEALTH  
EDUCATION

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

### SEMESTER 1

Core modules		Credits
CH1200	GENERAL CHEMISTRY	15
CH1202	INTRODUCTORY INORGANIC CHEMISTRY	15
CH1283	COLLEGE PHYSICS AND PRACTICAL A	15
CH1282	ADVANCED MATHEMATICS III	15
	<b>Semester Total</b>	<b>60</b>

#### Additional Non-Credit Bearing Modules

COLLEGE COMPUTING  
PRINCIPLE OF MARXISM AND THEORY OF SOCIALISM

### SEMESTER 2

Core modules		Credits
CH1201	INTRODUCTORY ORGANIC CHEMISTRY	15
CH1203	INTRODUCTORY PHYSICAL CHEMISTRY	15
CH1284	COLLEGE PHYSICS AND PRACTICAL B	15
	<b>Semester Total</b>	<b>45</b>

#### Additional Non-Credit Bearing Modules

INTRODUCTION TO MAOISM AND THEORY OF SOCIALISM  
GENERAL OPTIONAL COURSE 1

### SEMESTER 3

#### Additional Non-Credit Bearing Modules

COGNITION PRACTICAL

### YEAR LONG MODULES

Core modules		Credits
CH1205	INTRODUCTORY CHEMISTRY PRACTICAL B	15

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

### YEAR 3 (2+2 students are at the University of Leicester)

#### SEMESTER 1

Core modules		Credits
CH2200	SPECTROSCOPY THEORY AND PRACTICE	15
CH2207	POLYMER AND MATERIALS CHEMISTRY	15
<b>Semester Total</b>		<b>30</b>

#### SEMESTER 2

Core modules		Credits
CH2206	ANALYTICAL CHEMISTRY IN PRACTICE	15
<b>Semester Total</b>		<b>15</b>

#### Additional Non-Credit Bearing Modules

CH1209	INTRODUCTORY PHARMACEUTICAL CHEMISTRY
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#### SEMESTER 3

#### Additional Non-Credit Bearing Modules

PRODUCTION PRACTICAL
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#### YEAR LONG MODULES

Core modules		Credits
CH2201	ORGANIC CHEMISTRY	15
CH2202	INORGANIC CHEMISTRY	15
CH2203	PHYSICAL CHEMISTRY	15
CH2204	PRACTICAL CHEMISTRY AND KEY SKILLS	30

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

## YEAR 4 (2+2 students are at the University of Leicester)

### SEMESTER 1

Core modules		Credits
CH3201	ADVANCED ORGANIC CHEMISTRY	15
CH3202	ADVANCED INORGANIC CHEMISTRY	15
CH3261	BSC PROJECT PRACTICAL	15
<b>Semester Total</b>		<b>45</b>

### SEMESTER 2

Core modules		Credits
CH3203	ADVANCED PHYSICAL CHEMISTRY	15
CH3205	METALS IN SYNTHESIS	15

#### Optional modules: 1 from

CH3206	ADVANCED ANALYTICAL CHEMISTRY	15
CH3208	ADVANCED MATERIALS CHEMISTRY	15
<b>Semester Total</b>		<b>45</b>

### YEAR LONG MODULES

Core modules		Credits
CH3260	BSc GENERAL PAPER & KEY SKILLS	15
CH3262	BSC PROJECT REPORT	15

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

**2+1+1 Route****YEAR 1 (2+1+1 students are at DUT (Panjin))****SEMESTER 1**

<b>Core modules</b>		<b>Credits</b>
EL0002	ENGLISH FOR GENERAL ACADEMIC PURPOSE	45
CH0280	ADVANCED MATHEMATICS I	15
	<b>Semester Total</b>	<b>60</b>

**Additional Non-Credit Bearing Modules**

MILITARY THEORY AND TRAINING  
MORAL CULTIVATION AND BASIC LAW  
PHYSICAL EDUCATION I

**SEMESTER 2**

<b>Core modules</b>		<b>Credits</b>
EL0005	ENGLISH FOR SPECIFIC ACADEMIC PURPOSES	15
CH0061	INTRODUCTION TO CHEMISTRY	30
CH0281	ADVANCED MATHEMATICS II	15
	<b>Semester Total</b>	<b>60</b>

**Additional Non-Credit Bearing Modules**

CHINESE MODERN CONTEMPORARY HISTORY AND  
SITUATION POLICY  
PHYSICAL EDUCATION II

**SEMESTER 3****Additional Non-Credit Bearing Modules**

COLLEGE STUDENT MENTAL HEALTH AND HEALTH  
EDUCATION

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

### SEMESTER 1

Core modules		Credits
CH1200	GENERAL CHEMISTRY	15
CH1202	INTRODUCTORY INORGANIC CHEMISTRY	15
CH1283	COLLEGE PHYSICS AND PRACTICAL A	15
CH1282	ADVANCED MATHEMATICS III	15
<b>Semester Total</b>		<b>60</b>

#### Additional Non-Credit Bearing Modules

COLLEGE COMPUTING  
PRINCIPLE OF MARXISM AND THEORY OF SOCIALISM

### SEMESTER 2

Core modules		Credits
CH1201	INTRODUCTORY ORGANIC CHEMISTRY	15
CH1203	INTRODUCTORY PHYSICAL CHEMISTRY	15
CH1284	COLLEGE PHYSICS AND PRACTICAL B	15
<b>Semester Total</b>		<b>45</b>

#### Additional Non-Credit Bearing Modules

INTRODUCTION TO MAOISM AND THEORY OF SOCIALISM  
GENERAL OPTIONAL COURSE 1

### SEMESTER 3

#### Additional Non-Credit Bearing Modules

COGNITION PRACTICAL

### YEAR LONG MODULES

Core modules		Credits
CH1205	INTRODUCTORY CHEMISTRY PRACTICAL B	15

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

### YEAR 3 (2+1+1 students are at the University of Leicester)

#### SEMESTER 1

Core modules		Credits
CH2200	SPECTROSCOPY THEORY AND PRACTICE	15
CH2207	POLYMER AND MATERIALS CHEMISTRY	15
<b>Semester Total</b>		<b>30</b>

#### SEMESTER 2

Core modules		Credits
CH2206	ANALYTICAL CHEMISTRY IN PRACTICE	15
<b>Semester Total</b>		<b>15</b>

#### Additional Non-Credit Bearing Modules

CH1209	INTRODUCTORY PHARMACEUTICAL CHEMISTRY
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#### SEMESTER 3

#### Additional Non-Credit Bearing Modules

PRODUCTION PRACTICAL
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#### YEAR LONG MODULES

Core modules		Credits
CH2201	ORGANIC CHEMISTRY	15
CH2202	INORGANIC CHEMISTRY	15
CH2203	PHYSICAL CHEMISTRY	15
CH2204	PRACTICAL CHEMISTRY AND KEY SKILLS	30

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



**YEAR 4 (2+1+1 students are at DUT (Panjin))****SEMESTER 1****Core modules**

		<b>Credits</b>
CH3201	ADVANCED ORGANIC CHEMISTRY	15
CH3202	ADVANCED INORGANIC CHEMISTRY	15
CH3203	ADVANCED PHYSICAL CHEMISTRY	15

**Optional modules: 1 from**

CH3206	ADVANCED ANALYTICAL CHEMISTRY	15
CH3280	POLYMER CHEMISTRY AND PHYSICS	15

**Semester Total 60****Additional Non-Credit Bearing Modules**

GENERAL OPTIONAL COURSE 3

**SEMESTER 2****Core modules**

		<b>Credits</b>
CH3205	METALS IN SYNTHESIS	15
CH3851	FINAL YEAR PROJECT PART I	30
CH3852	FINAL YEAR PROJECT PART II	15

**Semester Total 60**

**3+1 Route****YEAR 1 (3+1 students are at DUT (Panjin))****SEMESTER 1**

<b>Core modules</b>		<b>Credits</b>
EL0002	ENGLISH FOR GENERAL ACADEMIC PURPOSE	45
CH0280	ADVANCED MATHEMATICS I	15
	<b>Semester Total</b>	<b>60</b>

**Additional Non-Credit Bearing Modules**

MILITARY THEORY AND TRAINING  
MORAL CULTIVATION AND BASIC LAW  
PHYSICAL EDUCATION I

**SEMESTER 2**

<b>Core modules</b>		<b>Credits</b>
EL0005	ENGLISH FOR SPECIFIC ACADEMIC PURPOSES	15
CH0061	INTRODUCTION TO CHEMISTRY	30
CH0281	ADVANCED MATHEMATICS II	15
	<b>Semester Total</b>	<b>60</b>

**Additional Non-Credit Bearing Modules**

CHINESE MODERN CONTEMPORARY HISTORY AND  
SITUATION POLICY  
PHYSICAL EDUCATION II

**SEMESTER 3****Additional Non-Credit Bearing Modules**

COLLEGE STUDENT MENTAL HEALTH AND HEALTH  
EDUCATION

## YEAR 2 (3+1 students are at DUT (Panjin))

### SEMESTER 1

Core modules		Credits
CH1200	GENERAL CHEMISTRY	15
CH1202	INTRODUCTORY INORGANIC CHEMISTRY	15
CH1283	COLLEGE PHYSICS AND PRACTICAL A	15
CH1282	ADVANCED MATHEMATICS III	15
	<b>Semester Total</b>	<b>60</b>

#### Additional Non-Credit Bearing Modules

COLLEGE COMPUTING  
PRINCIPLE OF MARXISM AND THEORY OF SOCIALISM

### SEMESTER 2

Core modules		Credits
CH1201	INTRODUCTORY ORGANIC CHEMISTRY	15
CH1203	INTRODUCTORY PHYSICAL CHEMISTRY	15
CH1284	COLLEGE PHYSICS AND PRACTICAL B	15
	<b>Semester Total</b>	<b>45</b>

#### Additional Non-Credit Bearing Modules

INTRODUCTION TO MAOISM AND THEORY OF SOCIALISM  
GENERAL OPTIONAL COURSE 1

### SEMESTER 3

#### Additional Non-Credit Bearing Modules

COGNITION PRACTICAL

### YEAR LONG MODULES

Core modules		Credits
CH1205	INTRODUCTORY CHEMISTRY PRACTICAL B	15

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

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

#### SEMESTER 1

Core modules		Credits
CH2200	SPECTROSCOPY THEORY AND PRACTICE	15
CH2201	ORGANIC CHEMISTRY	15
CH2280	PRINCIPLES OF CHEMICAL ENGINEERING AND PRACTICAL I	15
CH2284	PRACTICAL CHEMISTRY AND KEY SKILLS PART A	15
<b>Semester Total</b>		<b>60</b>

#### Additional Non-Credit Bearing Modules

BIOCHEMISTRY  
BIOCHEMISTRY PRACTICAL

#### SEMESTER 2

Core modules		Credits
CH2202	INORGANIC CHEMISTRY	15
CH2203	PHYSICAL CHEMISTRY	15
CH2281	PRINCIPLES OF CHEMICAL ENGINEERING AND PRACTICAL II	15
CH2204	PRACTICAL CHEMISTRY AND KEY SKILLS PART B	15
<b>Semester Total</b>		<b>60</b>

#### Additional Non-Credit Bearing Modules

GENERAL OPTIONAL COURSE 2

#### SEMESTER 3

#### Additional Non-Credit Bearing Modules

PRODUCTION PRACTICAL

## YEAR 4 (3+1 students are at the University of Leicester)

### SEMESTER 1

Core modules		Credits
CH3201	ADVANCED ORGANIC CHEMISTRY	15
CH3202	ADVANCED INORGANIC CHEMISTRY	15
CH3261	BSC PROJECT PRACTICAL	15
<b>Semester Total</b>		<b>45</b>

### SEMESTER 2

Core modules		Credits
CH3203	ADVANCED PHYSICAL CHEMISTRY	15
CH3205	METALS IN SYNTHESIS	15

#### Optional modules: 1 from

CH3206	ADVANCED ANALYTICAL CHEMISTRY	15
CH3208	ADVANCED MATERIALS CHEMISTRY	15
<b>Semester Total</b>		<b>45</b>

### YEAR LONG MODULES

Core modules		Credits
CH3260	BSc GENERAL PAPER & KEY SKILLS	15
CH3262	BSC PROJECT REPORT	15





	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	
<b>Programme Learning Outcomes</b>	EL0001	EL0005	CH0061	CH1280	CH1281	CH1200	CH1201	CH1202	CH1203	CH1205	CH1282	CH1283	CH1284	CH2200	CH2201	CH2202	CH2203	CH2204	CH2205	CH2880	CH2881	CH3201	CH3202	CH3203	CH3206	CH3280	CH3205	CH4207	CH3281	CH3282	
<b>(b) Transferable skills</b>																															
<b>(i) Oral communication</b>																															
Give reasoned arguments in response to chemical questions																				X									X	X	
Give a short seminar on a chemical topic																				X									X	X	
<b>(ii) Written communication</b>																															
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	
<b>(iii) Information technology</b>																															
Use mathematical packages for data analysis				X	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										
Use of scientific software packages, e.g. drawing or molecular modelling										X										X	X									X	
<b>(iv) Numeracy</b>																															
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	X
Solve numerical problems				X	X						X	X	X	X				X	X	X	X				X						
Use calculus in Chemistry				X	X												X	X	X	X	X			X							
<b>(v) Team working</b>																															
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	
<b>(vi) Problem solving</b>																															
Apply knowledge	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	
<b>(vii) Information handling</b>																															
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	X
Use electronic scientific databases																							X							X	X
<b>(viii) Skills for lifelong learning</b>																															
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	X
Learn independently																					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	X
Analyse data			X							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	