UNIVERSITY OF LEICESTER

Programme Specification (Undergraduate)

For students entering in 2020/21

Date amended: April 2020

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

BSc Chemistry F100

BSc Chemistry with a Year in Industry*

BSc Chemistry with Forensic Science F1F4

BSc Chemistry with Forensic Science with a Year in Industry*

BSc Pharmaceutical Chemistry F154

BSc Pharmaceutical Chemistry with a Year in Industry*

BSc Chemistry with Enterprise XXX

BSc Chemistry with Enterprise with a Year in Industry*

* - selected when on course

[BSc Chemistry with a Year Abroad; BSc Chemistry with Forensic Science with a Year Abroad & BSc Pharmaceutical Chemistry with a Year Abroad are also *exit awards only* for students failing to progress on the equivalent MChem programmes – see MChem programme specifications]

2. Awarding body or institution:

University of Leicester

3. a) Mode of study:

Full time

b) Type of study:

Campus based

4. Registration periods:

The normal period of registration is three years (four years for degrees with a year in industry or students coming through the STEM foundation route; five years if both).

The maximum period of registration is five years (six years for degrees with a year in industry or students coming through the STEM foundation route).

5. Typical entry requirements:

A-level ABB or equivalent and GCSE Maths grade A. Applications from mature students with a Level 3 qualification in Chemistry and experience of employment in a chemistry related field are welcomed and will be considered on a case by case basis.

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 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. health, industry, sustainability
- 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 investigation
- To introduce students to a range topic of current chemical 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.

For the Year in Industry variant only, these additional programme aims apply:

- Prepare students for career and training opportunities which relates to their degree – in both the private and public sectors, and voluntary organisations.
- Construct effective applications for placement opportunities
- Provide students the opportunity to recognise suitable plans for transitioning into the workplace

Additional aims and objectives for related degrees

Chemistry with Forensic Science

- To provide an understanding of the requirements of a forensic investigation from evidence collection through to court proceedings.
- To provide an understanding of the different types forensic evidence, the techniques for forensic analysis and the limitations and reliability of some of these methods.

Pharmaceutical Chemistry

- To provide a broad understanding of the chemistry that underpins central areas of biochemistry
- To provide a broad understanding of the processes involved in development of new drugs including drug design, discovery, mode of action and production

Chemistry with Enterprise

- To provide an introduction to business and commerce in relation to chemical sciences
- To develop entrepreneurial skills through a series of chemistry-related activities

8. Reference points used to inform the programme specification:

- QAA Frameworks for Higher Education Qualifications in England Wales and Northern Ireland
- QAA Benchmarking Statement for Chemistry 2014
- University of Leicester Learning and Teaching Strategy 2016-2020
- University of Leicester Periodic Developmental Review Report
- External Examiners' reports (annual)
- University Employability Strategy
- Destinations of Leavers from Higher Education (DLHE) survey
- Royal Society of Chemistry accreditation guidance
- QAA Benchmarking Statement for Enterprise (2018)

9. Programme Outcomes:

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
(a) Discipline specific knowledge and competencies		
(i) Mastery of an appropriate body of knowledge		
On successful completion of the programme students will be able to: recall and apply the basic concepts of chemistry theory across all 3 main areas of chemistry* (inorganic, organic & 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 at least 2* of the broad areas of chemistry (organic, inorganic, physical and analytical).	Lectures; tutorials; specified & directed reading; problem classes; problem-based learning; open ended group work; laboratory practical classes; research projects; computer aided learning.	Written examinations; assessed coursework including – tutorial problems, computer tests, oral presentations; assessed practical work and reports.
Specific to Chemistry with Forensic Science: knowledge of forensic methods of evidence collection and analysis and the British criminal justice system.	Lectures; specified & directed reading; laboratory practical classes.	Written examinations; assessed coursework including – written work, essays, practical reports, oral presentations
Specific to Pharmaceutical Chemistry: knowledge and understanding of biochemistry; knowledge of processes of drug discovery. *For Pharmaceutical Chemistry there is less coverage of physical chemistry, in year 3, the detailed knowledge is in organic chemistry and pharmaceutical chemistry.	Lectures; specified & directed reading; laboratory practical classes.	Written examinations; assessed coursework including – written work, essays, oral presentations.
Specific to Chemistry with Enterprise: knowledge and understanding of the terms used in business and accountancy	Lectures; specified reading, workshops, tuorials and seminars	Short tests; assessed coursework including written work, essays, oral presentations.

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
(ii) Understanding and application of key concepts and techniques		
On successful completion of the programme students will 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 conduct chemical experiments using standard equipment and following safe procedures; use computer programs to retrieve & analyse data; describe and discuss the accumulation of scientific evidence.	Lectures; tutorials; specified & directed reading; problem classes; problem-based learning; open ended group work; laboratory practical classes; research projects; computer aided learning.	Written examinations; assessed coursework including – tutorial problems, computer tests, oral presentations; assessed practical work and reports.
Specific to Chemistry with Enterprise: ability to apply the key concepts of business to a product/service and develop a business case.	Lectures; specified reading, workshops and seminars	Problem based learning and written business plan
(iii) Critical analysis of key issues		
On successful completion of the programme students will be able to: critically appraise physical & chemical information and discuss its limitations; draw quantitative conclusions from sample data; summarise key findings of scientific papers; critically assess and compare scientific theories.	Lectures; tutorials; problem-based learning; problem classes, open ended group work; laboratory practical classes; research projects; computer aided learning.	Written examinations; practical & projects reports; oral presentations; assessed practical work; assessed computer exercises.
Specific to Chemistry with Forensic Science: ability to analyse forensic evidence and appreciate reliability of conclusions.		
Specific to Chemistry with Enterprise: ability to carry out a SWOT analysis for a product / business	Lectures; specified reading, workshops and seminars	Data analysis exercises

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
(iv) Clear and concise presentation of material		
On successful completion of the programme students will be able to: present scientific ideas, data and results in a variety of (appropriate) forms e.g. reports, seminars, posters, papers etc; use appropriate software for presenting and modelling chemical structures and systems; participate in scientific discussion and debate.	Lectures, tutorials; problem-based learning; group based problem classes; open ended group project work; laboratory practical classes; research projects.	Laboratory notebooks; practical and project reports; oral presentations; assessed practical work including lab samples & associated data; assessed computer exercises; tutorial work
Specific to Chemistry with Enterprise: ability to create and present a business plan	Lectures; specified reading, workshops and seminars	Problem based learning and written business plan
(v) Critical appraisal of evidence with appropriate insight		
On successful completion of the programme students will be able to discuss and implement experimental methodology; collect and critically analyse data; draw valid inferences from data in a variety of settings; discuss and criticize scientific literature.	Tutorials; problem-based learning; lectures; open ended group project work; laboratory practical classes; research projects.	Written examinations; reports; oral presentations; assessed practical work; assessed computer exercises; assessed problems; project assessments.
Specific to Chemistry with Enterprise: ability to create and present a business plan	Lectures; specified reading, workshops and seminars	Data collection and analysis exercises
(vi) Other discipline specific competencies		
On successful completion of the programme students will be able to: discuss, design and implement scientific experiments; competently use a range of standard laboratory equipment; describe and adhere to laboratory safety procedures; describe and discuss some areas of current research in chemistry	Tutorials; problem-based learning; research projects.	Written reports; oral presentations; assessed practical work; written examinations.

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
(b) Transferable skills		
(i) Oral communication		
On successful completion of the programme students will be able to: describe and discuss scientific concepts to a variety of audiences; give reasoned arguments in response to chemical questions.	Tutorials; problem-based learning; group problem solving classes; research projects.	Oral presentations and questioning (including projects)
(ii) Written communication		
On successful completion of the programme students will be able to write concise and clear scientific reports (including abstracts), laboratory notebooks & reports and project summaries; write CVs; clearly discuss some areas of current research in chemistry in written form. Specific to Chemistry with Enterprise: ability to write a technical report and business plan	Tutorials; problem-based learning; laboratory practical classes; CV writing workshop; research projects. Problem based learning and seminars	Written lab-notebooks, project and laboratory reports; assessed CVs; assessed coursework including essays, written examinations. Report and business plan writing
(iii) Information technology		
On successful completion of the programme students will be able to: use spreadsheets, word processing and presentation facilities; use basic IT skills to access chemical information from online databases; use mathematical packages for data analysis; use chemistry specific software such as drawing or molecular modelling packages.	Problem classes; research projects; literature based coursework exercises; laboratory practical classes	Assessed IT tasks; laboratory/project assessments; practical and project reports; assessed problems.
(iv) Numeracy		
On successful completion of the programme students will be able to: use analytical and graphical methods; analyse data; solve numerical problems involving e.g. calculus, linear algebra. Specific to Chemistry with Enterprise: ability to develop a business plan and understand a set of accounts	Lectures; group problem solving classes; problem-based learning; research project; laboratory practical classes. Lectures; specified reading, workshops and seminars	Written examinations; practical and project reports; oral presentations; assessed practical work; assessed problems Written plan & oral examination

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
(v) Team working		
On successful completion of the programme students will be able to: discuss concepts and formulate plans working with peers; recognise individual strengths within a team; organise time and tasks coherently between group members; produce joint reports/presentations.	Group problem solving classes, coursework & projects; problem-based learning; research projects.	Group assessment (outcomes and oral questioning); project assessment.
(vi) Problem solving		
On successful completion of the programme students will be able to: analyse problems; plan and implement projects; apply chemistry knowledge and problem solving ability to novel applications; solve unfamiliar numerical problems. Specific to Chemistry with Enterprise: ability to carry out a SWOT analysis in a business environment	Lectures; tutorials; problem-based learning; laboratory classes; open ended group work; research projects. Lectures; specified reading, workshops and seminars	Assessed examinations; assessed problems; group work assessment; project assessments. Written plan & oral examination
(vii) Information handling		
On successful completion of the programme students will be able to: gather, retrieve and manipulate chemical information and data from a variety of sources, analyse & use it to support a chemical argument; describe and discuss the scientific method; present data in various forms (e.g. tabular and graphical); access, search and appraise articles in scientific journals/literature. Specific to Chemistry with Enterprise: ability to carry out a market survey and subsequent data analysis	Lectures, tutorials; problem-based learning; laboratory and project supervision; group problem solving classes; research projects. Lectures; specified reading, workshops and seminars	Assessed examinations; assessed problems; project and laboratory reports; oral presentations;. Data collection and analysis exercises

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
(viii) Skills for lifelong learning		
On successful completion of the programme students will be able to: plan and undertake projects involving elements of independent research; access, search and appraise scholarly articles; collect and analyse data; search for and pursue employment and/or further study opportunities; work effectively in teams; work to deadlines managing their time effectively. Students taking an industrial placement year will also appreciate the cultural environment of different businesses.	Laboratory classes & research projects; careers / skills training sessions; lectures from visiting speakers Experience with industry.	Open note assessments; meeting deadlines; Project assessments; written examinations; assessed CVs; Reflective coursework exercises.
For the Year in Industry variants		
Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Placement Preparation 1 and 2		
1. Select appropriate resources for researching/securing placement opportunities 2. Explain the process for applying for and securing a relevant placement 3. Construct effective applications for placement opportunities 4. Recognise suitable plans for transitioning into a placement	Students are provided with dedicated and timetabled sessions to prepare to search and secure a year in industry. Problem solving classes, Masterclasses, Career development programmes, Independent research.	Formative module feedback through session tasks and exercises
On Placement		
1. Apply the theoretical and practical aspects of the material studied at the University and demonstrate the personal and professional skills necessary for your role within the organisation. 2. Compose a Professional Development Plan considering your strengths, development areas and motivations for your next step 3. Modify your CV to include the skills and experience you have gained through your significant experience	Students undertake a minimum of 9 months experience in the workplace. Project supervision, independent research	Completion of Monthly Reflective Journals to record skills development, major achievements, key areas of work, learning points and challenges overcome. Assessed by a Placement Portfolio, comprising of a Reflective Summary, Professional Development Plan, and Updated CV (excluded from word count) to formally assess on a pass or fail basis.

gained in the past 12 months.		Formative feedback during a Placement Visit (in person or via Skype) from Placement Provider and Placement Tutor regarding reflection on skills development, areas of strength and weakness and contribution to the workplace.

10. Progression points:

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

Practical & project requirements: Modules CH1205, CH2204, CH3261 & CH3262 must be passed **at the first attempt**, except at the discretion of the Board of Examiners who may ask students to resubmit one or more assessed coursework elements where it is possible for students to achieve a pass mark for the module by improving their mark in individual coursework elements. There are no resit opportunities for non-mitigated missed practical work. Practical modules CH1205 & CH2204 also have a requirement of at least 90% attendance (and completion) of scheduled *laboratory* sessions; if this is not achieved then the module will be automatically failed. A limited number of additional "catch-up" sessions may be provided for students who have accepted mitigation for non-attendance.

Transfer to MChem degrees: Students may be permitted to transfer onto a MChem degree during their 2nd year if their final credit weighted average for year 1 is greater than 50%.*

* An internal deadline will be set by the Department during Year 2 for such transfers; this will be clearly communicated to all Year 2 students.

Transfer between different degrees: Transfer from BSc Pharmaceutical Chemistry to BSc or MChem Chemistry or from BSc Chemistry with Forensic Science to BSc or MChem Chemistry is allowed at the end of the 1st year (and in exceptional cases at the end of the 2nd year). Transfer from BSc Chemistry to BSc Pharmaceutical Chemistry or BSc Chemistry to BSc Chemistry with Forensic Science is only allowed at the start of the 1st year (within the first two weeks of semester 1). Note: any transfer from BSc to MChem is subject to the additional requirements set out above.

Transfer to or from the Chemistry with Enterprise programme from the other BSc degrees is not allowed after the first three weeks of the 1st year.

Progression onto a year in industry

The progression criteria for a 'year in industry' programme meets the requirements needed to progress to the next level of study as outlined in the University's Senate 5 Regulations

A Placement Student will revert back to the degree without Year in Industry if:

1. They fail to secure a year in industry role.
2. They fail to pass the assessment related to the year in industry.
3. The year in industry ends early due to the behaviour of the Placement Student not being in accordance with the University's Regulations for Students, Student Responsibilities. The Placement Student will need to suspend for the remainder of the academic year. To prevent such an incident from happening, processes are in place to identify any possible issues or concerns early in the year in industry role. This includes a start check, regular communications, visits to the workplace (physical and/or virtual) and evaluation.

Communication and contact between the Placement Student, Placement Provider and University provides support should issues arise.

4. They discontinue their Year in Industry. A student can return to their campus-based studies no later than the end of teaching week 2 at the start of the academic year should they decide to discontinue their Year in Industry they should complete a Course Transfer From. If a Placement Student decides to discontinue their Year in Industry after this point they will need to suspend their studies for the remainder of the academic year.

Nine months is the minimum time required for a year in industry to be formally recognised. If the year in industry is terminated earlier than 9 months as a result of event outside of the Placement Students control (for example redundancy, or company liquidation), the following process will be adopted:

1. If the Placement Student has completed 1 – 6 months, they will be supported to search for another placement to take them up to the 9 months required for the year in industry to be formally recognised. If the Placement Student does not find a placement to meet this criteria they will be required to suspend and transferred onto the degree without Year in Industry.
2. If the Placement Student has completed 7-8 months, they will be supported to search for another placement to take them up to the 9 months required for the year in industry to be formally recognised. If the Placement Student cannot source an additional placement to take them to 9 months, assessments related to the year in industry will be set for the student to make it possible for the individual learning objectives for the year in industry to be met. This will allow the Year in Industry to be recognised in the degree certificate.
3. A Placement Student will not be permitted to undertake a placement which runs across two academic years.

Awarding requirements for Royal Society of Chemistry accredited degrees

In order to meet Royal Society of Chemistry accreditation requirements, we require all students to pass at least one Level One or Level Two module in all three areas of the subject (organic, inorganic and physical chemistry – see table below). Students will need to do this by the end of their studies in order to graduate with a degree in Chemistry/Pharmaceutical Chemistry/Chemistry with Forensic Science/Chemistry with Enterprise.

Organic chemistry	Inorganic chemistry	Physical chemistry
By the end of their studies, students must have passed at least one of the following modules: CH1201 and CH2201	By the end of their studies, students must have passed at least one of the following modules: CH1202 and CH2203	By the end of their studies, students must have passed at least one of the following modules: CH1203 and CH2203

In addition, students will also need to gain an overall (CWA across both modules) pass mark of 40% for the two final year project modules CH3261 & CH3262.

Students who meet all other progression and awarding regulations but fail to meet all of these accreditation requirements may be awarded a non-accredited degree in Chemical Science/Pharmaceutical and Chemical Sciences/Chemical and Forensic Sciences/Chemical Sciences with Enterprise.

11. Scheme of Assessment

The programme follows the standard scheme of award and classification set out in Senate Regulation 5.

12. Special features:

Small group tutorials, group problem solving, student-centred learning, research based projects, links with industry, problem and context based learning. Specific business related modules for the Chemistry with Enterprise programme.

Placements

It is the student's responsibility to secure a year in industry role. Students are invited to attend Placement Preparation modules, additional support workshops and 1-2-1 appointments with the Career Development Service. Employer led activities provide a platform for students to engage with organisations who are recruiting students for year in industry roles.

When a Placement Student starts a year in industry, they will be required to complete health and safety documents and confirm they have completed a formal induction process no later than the 2nd week of placement. A Placement Student on the Year in Industry variant will also gain from being able to:

1. Apply the theoretical and practical aspects of the material studied at the University and demonstrate the personal and professional skills necessary for your role within the organisation.
2. Compose a Professional Development Plan considering your strengths, development areas and motivations for your next step
3. Modify your CV to include the skills and experience you have gained through your significant experience gained in the past 12 months

13. Indications of programme quality

All degrees were accredited by the Royal Society of Chemistry in Jan 2016 (except Chemistry with Enterprise)
Academic Review
External examiners reports
Destinations of Leavers from Higher Education (DLHE) survey

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 here.

Appendix 1: Programme structure (programme regulations)

Appendix 2: Module specifications

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

Appendix 3: Skills matrix

BSc Chemistry

YEAR 1

SEMESTER 1

Core modules		Credits
CH1200	GENERAL CHEMISTRY	15
CH1206	SCIENTIFIC METHOD & PRINCIPLES OF ANALYTICAL CHEMISTRY	15

SEMESTER 2

Core modules		
CH1207	CHEMISTRY OF THE REAL WORLD	15

YEAR-LONG

Core modules		
CH1201	INTRODUCTORY ORGANIC CHEMISTRY	15
CH1202	INTRODUCTORY INORGANIC CHEMISTRY	15
CH1203	INTRODUCTORY PHYSICAL CHEMISTRY	15
CH1204	CHEMISTRY KEY SKILLS & MATHS	15
CH1205	INTRODUCTORY PRACTICAL CHEMISTRY	15
		Total 120

Delivery of the year-long modules will be weighted towards semester 2 to ensure approx. 60 credits is delivered in each semester.

YEAR 2

SEMESTER 1

Core modules		Credits
CH2200	SPECTROSCOPY THEORY & PRACTICE	15
CH2207	POLYMER & MATERIALS CHEMISTRY	15

SEMESTER 2

Core modules		
CH2206	ANALYTICAL CHEMISTRY IN PRACTICE	15

YEAR-LONG

Core modules		
CH2201	ORGANIC CHEMISTRY	15
CH2202	INORGANIC CHEMISTRY	15
CH2203	PHYSICAL CHEMISTRY	15
CH2204	PRACTICAL CHEMISTRY & KEY SKILLS	30
		Total 120

Delivery of the year-long modules will be weighted towards semester 2 to ensure approx. 60 credits is delivered in each semester.

YEAR 3

SEMESTER 1

Core modules		Credits
CH3201	ADVANCED ORGANIC CHEMISTRY	15

CH3202	ADVANCED INORGANIC CHEMISTRY	15
CH3261	BSC PROJECT PRACTICAL	15

SEMESTER 2

Optional modules:* 3 from

CH3203	ADVANCED PHYSICAL CHEMISTRY	15
CH3204	BIOLOGICAL CHEMISTRY	15
CH3205	METALS IN SYNTHESIS	15
CH3206	ADVANCED ANALYTICAL CHEMISTRY	15
CH3208	ADVANCED MATERIALS CHEMISTRY	15

(* At least one of CH3203 or CH3206 must be taken)

YEAR-LONG

Core modules

CH3260	BSC GENERAL PAPER & KEY SKILLS	15
CH3262	BSC PROJECT REPORT	15
		Total 120

The year-long modules will be suitably delivered weighted to ensure approx. 60 credits in each semester.

BSc Chemistry with Forensic Science

YEAR 1

SEMESTER 1

Core modules		**Credits**
CH1200	GENERAL CHEMISTRY	15
CH1206	SCIENTIFIC METHOD & PRINCIPLES OF ANALYTICAL CHEMISTRY	15

SEMESTER 2

Core modules

CH1208	INTRODUCTORY FORENSIC SCIENCE I	15

YEAR-LONG

Core modules

CH1201	INTRODUCTORY ORGANIC CHEMISTRY	15
CH1202	INTRODUCTORY INORGANIC CHEMISTRY	15
CH1203	INTRODUCTORY PHYSICAL CHEMISTRY	15
CH1204	CHEMISTRY KEY SKILLS & MATHS	15
CH1205	INTRODUCTORY PRACTICAL CHEMISTRY	15
		Total 120

Delivery of the year-long modules will be weighted towards semester 2 to ensure approx. 60 credits is delivered in each semester.

YEAR 2

SEMESTER 1

Core modules		**Credits**
CH2200	SPECTROSCOPY THEORY & PRACTICE	15
CH2208	INTRODUCTORY FORENSIC SCIENCE II	15

SEMESTER 2

Core modules

CH2206	ANALYTICAL CHEMISTRY IN PRACTICE	15

YEAR-LONG

Core modules

CH2201	ORGANIC CHEMISTRY	15
CH2202	INORGANIC CHEMISTRY	15
CH2203	PHYSICAL CHEMISTRY	15
CH2204	PRACTICAL CHEMISTRY & KEY SKILLS	30
		Total 120

Delivery of the year-long modules will be weighted towards semester 2 to ensure approx. 60 credits is delivered in each semester.

YEAR 3

SEMESTER 1

Core modules		**Credits**
CH3201	ADVANCED ORGANIC CHEMISTRY	15
CH3202	ADVANCED INORGANIC CHEMISTRY	15
CH3261	BSC PROJECT PRACTICAL	15

SEMESTER 2

Core modules

CH3212	FORENSIC SCIENCE	15

Optional modules:* 2 from

CH3203	ADVANCED PHYSICAL CHEMISTRY	15
CH3204	BIOLOGICAL CHEMISTRY	15
CH3205	METALS IN SYNTHESIS	15
CH3206	ADVANCED ANALYTICAL CHEMISTRY	15
CH3208	ADVANCED MATERIALS CHEMISTRY	15

(* At least <u>one</u> of CH3203 or CH3206 <u>must</u> be taken)

YEAR-LONG

Core modules

CH3260	BSC GENERAL PAPER & KEY SKILLS	15
CH3262	BSC PROJECT REPORT	15
		Total 120

The year-long modules will be suitably delivered weighted to ensure approx. 60 credits in each semester.

BSc Pharmaceutical Chemistry

YEAR 1

SEMESTER 1

Core modules		**Credits**
CH1200	GENERAL CHEMISTRY	15
CH1206	SCIENTIFIC METHOD & PRINCIPLES OF ANALYTICAL CHEMISTRY	15

SEMESTER 2

Core modules

CH1209	INTRODUCTORY PHARMACEUTICAL CHEMISTRY	15

YEAR-LONG

Core modules

CH1201	INTRODUCTORY ORGANIC CHEMISTRY	15
CH1202	INTRODUCTORY INORGANIC CHEMISTRY	15
CH1203	INTRODUCTORY PHYSICAL CHEMISTRY	15
CH1204	CHEMISTRY KEY SKILLS & MATHS	15
CH1205	INTRODUCTORY PRACTICAL CHEMISTRY	15
		Total 120

Delivery of the year-long modules will be weighted towards semester 2 to ensure approx. 60 credits is delivered in each semester.

YEAR 2

SEMESTER 1

Core modules		**Credits**
CH2200	SPECTROSCOPY THEORY & PRACTICE	15
BS2013	PHYSIOLOGY & PHARMACOLOGY	15

SEMESTER 2

Core modules

CH2206	ANALYTICAL CHEMISTRY IN PRACTICE	15

YEAR-LONG

Core modules

CH2201	ORGANIC CHEMISTRY	15
CH2202	INORGANIC CHEMISTRY	15
CH2203	PHYSICAL CHEMISTRY	15
CH2204	PRACTICAL CHEMISTRY & KEY SKILLS	30
		Total 120

Delivery of the year-long modules will be weighted towards semester 2 to ensure approx. 60 credits is delivered in each semester.

YEAR 3

SEMESTER 1

Core modules		**Credits**
CH3201	ADVANCED ORGANIC CHEMISTRY	15
CH3202	ADVANCED INORGANIC CHEMISTRY	15
CH3261	BSC PROJECT PRACTICAL	15

SEMESTER 2

Core modules

CH3211	PHARMACEUTICAL CHEMISTRY	15

Optional modules: 2 from

CH3203	ADVANCED PHYSICAL CHEMISTRY	15

CH3204	BIOLOGICAL CHEMISTRY	15
CH3205	METALS IN SYNTHESIS	15
CH3206	ADVANCED ANALYTICAL CHEMISTRY	15
CH3208	ADVANCED MATERIALS CHEMISTRY	15

YEAR-LONG

Core modules

CH3260	BSC GENERAL PAPER & KEY SKILLS	15
CH3262	BSC PROJECT REPORT	15
		Total 120

The year-long modules will be suitably delivered weighted to ensure approx. 60 credits in each semester.

BSc Chemistry with Enterprise

YEAR 1

SEMESTER 1

Core modules		**Credits**
CH1200	GENERAL CHEMISTRY	15
CH1800	INTRODUCTION TO ENTERPRISE & ENTREPRENEURSHIP	15

SEMESTER 2

Core modules

CH1801	BUSINESS ANALYSIS	15

YEAR-LONG

Core modules

CH1201	INTRODUCTORY ORGANIC CHEMISTRY	15
CH1202	INTRODUCTORY INORGANIC CHEMISTRY	15
CH1203	INTRODUCTORY PHYSICAL CHEMISTRY	15
CH1204	CHEMISTRY KEY SKILLS & MATHS	15
CH1205	INTRODUCTORY PRACTICAL CHEMISTRY	15
		Total 120

Delivery of the year-long modules will be weighted towards semester 2 to ensure approx. 60 credits is delivered in each semester.

YEAR 2

SEMESTER 1

Core modules		**Credits**
CH2200	SPECTROSCOPY THEORY & PRACTICE	15
CH2800	ACCOUNTING & FINANCE	15

SEMESTER 2

Core modules

CH2801	FORMULATING START-UP STRATEGY	15

YEAR-LONG

Core modules		
CH2201	ORGANIC CHEMISTRY	15
CH2202	INORGANIC CHEMISTRY	15
CH2203	PHYSICAL CHEMISTRY	15
CH2204	PRACTICAL CHEMISTRY & KEY SKILLS	30
		Total 120

Delivery of the year-long modules will be weighted towards semester 2 to ensure approx. 60 credits is delivered in each semester.

YEAR 3

SEMESTER 1

Core modules		**Credits**
CH3201	ADVANCED ORGANIC CHEMISTRY	15
CH3202	ADVANCED INORGANIC CHEMISTRY	15
CH3261	BSC PROJECT PRACTICAL	15
Optional module: 1 from		
CH3800	INTERNSHIP REPORT	15
CH3801	PEOPLE, OPERATIONS & MARKETING	15

SEMESTER 2

Core modules		
CH3802	LEADERSHIP, CULTURE & ETHICS	15
CH3203	ADVANCED PHYSICAL CHEMISTRY	15

YEAR-LONG

Core modules		
CH3260	BSC GENERAL PAPER & KEY SKILLS	15
CH3262	BSC PROJECT REPORT	15
		Total 120

The year-long modules will be suitably delivered weighted to ensure approx. 60 credits in each semester.

BSc PROGRAMMES WITH INDUSTRY

Students may elect to undertake an industrial placement during their third year of study.

FIRST YEAR MODULES

As the first year of the relevantly named BSc degree programme.

SECOND YEAR MODULES

As the second year of the relevantly named BSc degree programme. In addition students will take

SEMESTER 1

Core Modules

ADCH221	Placement Preparation 1	0

SEMESTER 2

Core Modules

ADCH221	Placement Preparation 2	0

THIRD YEAR MODULES

Year in Industry

ADCH223	On Placement	0

FOURTH YEAR MODULES

As the third year of the relevantly named BSc degree programme.

BSc PROGRAMMES WITH A YEAR ABROAD

These are only available as exit awards for students on the corresponding MChem programmes who fail parts of their 3rd year abroad. Details can be found on the MChem programme specifications.