UNIVERSITY OF LEICESTER

Programme Specification (Undergraduate)

For students entering in 2017/18
Date amended: 01/10/18

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

MChem Chemistry F105
MChem Chemistry (with a year in industry) F106
MChem Chemistry with a Year Abroad F107*
MChem Chemistry with Forensic Science F1FK
MChem Chemistry with Forensic Science with a year in Industry F106
MChem Chemistry with Forensic Science * with a Year Abroad) F107
MChem Pharmaceutical Chemistry with a year in Industry F152

**Year abroad can be studied in either Europe or the USA.*

2. Awarding body or institution:

University of Leicester

3. a) Mode of study:

Full time

b) Type of study:

Campus Based
Some Industry/EU third year modules are done by distance learning

4. Registration periods:

The normal period of registration is four years

The maximum period of registration is six years

5. Typical entry requirements:

A-level ABB or equivalent and GCSE Maths grade A

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
- 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 train students in chemical research methodology through carrying out an extended

research project

- To introduce students to a range of topics of current chemical research

- To equip students with the knowledge and generic skills for carrying out original research, employment or further training in R&D, science based industry and establishments, education, and for training at management levels in other professions.

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 and the techniques for forensic analysis and the limitations and reliability of some of these methods
- To provide a broad experience of analytical techniques in chemistry and their application in forensic analysis.

Pharmaceutical Chemistry

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

Industry variants

- To provide experience of applications of Chemistry and professional skills in Industry and to reinforce knowledge through use in different environments
- To gain an appreciation of the full range of skills required by chemists in industry

Europe/USA variants

- To provide experience of study of Chemistry in a Continental European (or US) University, to reinforce knowledge through use in different environments, to develop oral and, where studying in Europe, development of communication skills in a foreign language

8. Reference points used to inform the programme specification:

RSC accreditation [http://www.rsc.org/Education/courses-and-careers/accredited-courses/index.asp],

- QAA Frameworks for Higher Education Qualifications in England Wales and Northern Ireland
- QAA Benchmark Chemistry 2014
- External Examiners' reports
- PDR report (May 2011)
- University Learning Strategy
- University Employability Strategy
- First Destinations Data
- NSS 2014
- First destination survey
- External examiners reports

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		
Memorization and understanding of basic chemistry theory across all 3 main areas of chemistry* (organic, inorganic and physical) and model problems, practical techniques.	Lectures, Directed Reading, Workshops, Tutorials, practicals, computer aided learning.	Written exams, tutorial work, practical reports
Detailed knowledge of selected topics in at least 2* of the broad areas of Chemistry	Lectures, Directed Reading, Workshops, Tutorials, project supervision, computer aided learning.	Written exams, project report
Specific to Chemistry with Forensic Science: Knowledge of forensic methods of evidence collection and knowledge and understanding of the principles and techniques of (bio)chemical analysis and their application in forensic science}	Lectures, workshops, tutorials, practicals	Written exams, practical reports
Specific to Pharmaceutical Chemistry: Knowledge and understanding of biochemistry}	Lectures, workshops, tutorials, practicals	Written exams, practical reports
Knowledge of processes of drug discovery	Lectures, practicals	Written exams, practical reports
(ii) Understanding and application of key concepts and techniques		
Ability to apply chemical concepts in new situations e.g. ability to predict physical and chemical properties by comparison with analogues.	Lectures, Problem solving classes, Marked assignments	Written examination, assessed problems
Ability to apply logic and chemical knowledge to make deductions based on (limited) evidence	Supervised laboratory work Lectures Problem solving, 4th yr Project	Lab samples, associated data, lab-notebooks and reports Written examinations Assessed problems, Project report
Practical demonstration of experimental method. Professional use of standard equipment, knowledge of safety procedures		
Ability to design experiments (practical or theoretical to solve a chemical problem)		
(iii) Critical analysis of key issues		
Critical analysis of chemical information Summarise key findings of scientific papers. Abstract writing. Knowledge of limitations of theory in some areas	Progressively, particularly year 3 and 4 theory modules, 3rd year practical and 4th yr project	Written examinations, Laboratory notebooks, Project report
Specific to Chemistry with Forensic Science: Ability to analyse forensic evidence and appreciate reliability of conclusions}	Problem based learning	Assessed exercises, project

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
(iv) Clear and concise presentation of material		
Presentation of chemical information in appropriate formats Participation in scientific discussion Extended seminar	Lectures, tutorials, Project supervision Workshop/ group exercises	Laboratory notebooks Project reports Group presentations Project presentation
(v) Critical appraisal of evidence with appropriate insight		
Experimental method Project design	Lectures, practical classes Project supervision	Written examinations Project reports
(vi) Other discipline specific competencies		
(b) Transferable skills		
(i) Oral communication		
Response to questioning Short seminar Extended seminar *Specific to With a year in Europe variants:* ability to converse in a foreign language}	Tutorials, Group project supervision Project supervision Language instruction	Oral assessment (vivas) Presentation assessment oral exam, report
(ii) Written communication		
CVs Laboratory notebook Report writing Science communication	CV induction Lecture, example Writing workshops Workshop	Assessed lab-notebook Project reports Assessed essays
(iii) Information technology		
Basic IT skills Use of spreadsheets Basic word processing Use of Chemical Software, e.g. drawing or molecular modelling	Workshops Lab data analysis Projects Lab and Project reports	Assessed tasks Project report Laboratory assessment and projects
(iv) Numeracy		
Use of analytical and graphical methods	Practice throughout course	Written examinations, project reports
(v) Team working		
Scientific discussion Organization, time management, recognition of individual strengths	Group problem solving, Problem based learning Group projects, Business Game	Group assessment (outcomes and oral questioning)
(vi) Problem solving		
Ability to solve chemical problems.	Lectures, problem workshops, group work, projects	Marked problems, Exams, Group work assessment, project assessment
(vii) Information handling		
Gather, retrieve and manipulate chemical evidence and information from a variety of sources and be able to analyse and use it to support a chemical argument	Labs, projects, chemical abstracts exercise, problem workshops	Marked problems, Exams, Group work assessment, project assessment

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
(viii) Skills for lifelong learning		
Study skills Time management Commercial awareness Information retrieval *Specific to Industry/year abroad variants:* Cultural Integration	Resource based learning lab–work and projects careers advice, lectures from visiting industrialists, business game library exercises Industrial experience European experience American experience	Open note exams Meeting deadlines Project assessment

*****For Pharmaceutical Chemistry (PC) there is less coverage of inorganic and physical chemistry, from year 3 onwards, the detailed knowledge is in organic chemistry and pharmaceutical chemistry (PC).

10. Progression points:

Students must pass all the practical modules in year 1 ,2 and 3, or their programme will be terminated.

In order to remain on the MChem programme students are required to achieve a credit weighted average of 58% at the end of the second year midsummer examination period, and have no resits , students scoring less than this will only be considered in exceptional circumstances. Students who fail to meet these criteria at the end of the second year are required to transfer to the relevant BSc programme.

Students undertaking an overseas placement are required to achieve an average of 58% or higher in their year 2 semester 1 examinations in order to proceed to the placement. If a student fails to meet this requirement they may be able to remain as an MChem student but may not go on their year abroad (students with marks below this will be considered on a case by case basis)

Failure of modules in year 3 MChem: In very exceptional circumstances a student may fail some credits in year 3. If these are less than 20 credits they can proceed to year 4 and re-sit the failed assessments (in line with the University progression guidelines) or alternatively they can graduate immediately with a BSc, as the third year of the MChem programme meets the intended learning outcomes of the equivalent BSc programme. If the failure occurs whilst on placement then as above the students may be able to resit one module in year four of the programme. Failure in more than one module will result in automatic transfer to the 3rd year of a BSc degree (in which case their placement year will not count and will not appear on their degree certificate)

<u>Transfer between different degrees:</u>

Transfer from MChem Pharmaceutical Chemistry to MChem Chemistry or from MChem Chemistry with Forensic Science to MChem Chemistry is allowed at the end of the 1st year (and in exceptional cases at the end of the 2nd year) but transfer the other way i.e. MChem Chemistry to MChem Pharmaceutical Chemistry or MChem Chemistry to MChem Chemistry with Forensic Science is only allowed at the start of the 1st year (within the first two weeks of the first semester). Transfer on to a degree with a year in USA or Erasmus or in industry is only allowed by the end of the second week of the second year (exceptionally the department may allow a student to transfer onto these programmes after this date). In a very small number of cases it may be necessary (to meet the requirements of accreditation by the RSC) for students on the Mchem Chemistry with Forensic Science programme to transfer to the MChem Chemistry programme at the end of the 3rd year. This will apply only to those students wishing to take final year projects containing no appreciable forensic science and/or analytical chemistry content and the Department will discuss this on a case by case basis with the students concerned.

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, research based projects, links with industry, problem based learning, opportunity to study in industry or in a continental European or US University.

13. Indications of programme quality
All degrees accredited by the Royal Society of Chemistry in Jan 2016

14. External Examiners

The details of the External Examiner(s) for this programme and the most recent External Examiners' reports 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

MChem Chemistry

FIRST YEAR MODULES

SEMESTER 1

Core Modules			**Credits**
CH1000	CHEMICAL PRINCIPLES		15
CH1002	ORGANIC STRUCTURES AND FUNCTIONAL GROUPS		10
CH1003	MATHS FOR CHEMISTS		10
CH1041	CHEMISTRY SPECIAL TOPICS PART 1		15
CH1061	CHEMISTRY PRACTICAL PART A		15
		Semester Total	**65**

SEMESTER 2

Core Modules			**Credits**
CH1008	ORGANIC REACTIVITY AND MECHANISM		10
CH1006	COORDINATION CHEMISTRY		10
CH1007	THERMODYNAMICS & KINETICS		10
CH1042	CHEMISTRY SPECIAL TOPICS PART 2		10
CH1062	CHEMISTRY PRACTICAL PART B		15
		Semester Total	**55**

Note: CH1003 and CH1061 are both year-long modules.

SECOND YEAR MODULES

SEMESTER 1

Core Modules			**Credits**
CH2005	BIFUNCTIONAL MOLECULES		10
CH2007	PHYSICAL CHEMISTRY OF COLLOIDS		10
CH2010	MOLECULAR SPECTROSCOPY		10
CH2071	CHEMISTRY PRACTICAL PART A		15
CH2013	SCIENCE COMMUNICATION AND CAREER SKILLS PART 1		5
Optional Modules			
10 CREDITS SELECTED FROM:			
CH2023	MATERIALS SCIENCE		10
CH2040	INTRODUCTION TO ANALYTICAL CHEMISTRY		10
		Semester Total	**60**

SEMESTER 2

Core Modules			**Credits**
CH2006	ORGANOMETALLIC CHEMISTRY		10
CH2009	CHEMISTRY OF RINGS		10
CH2011	KINETICS AND MECHANISM		10
CH2072	CHEMISTRY PRACTICAL PART B		20
Optional Modules			
10 CREDITS SELECTED FROM:			
CH2021	POLYMER CHEMISTRY		10
CH2041	BIOANALYTICAL CHEMISTRY		10
		Semester Total	**60**

Note: CH2013 is a year-long module.

In order to continue on to the M. Chem. degree in year 3 students will normally have achieved at least a 2.1 standard at the end of the second year. Students whose overall average is less than 60% will be considered individually. Those

achieving lower than 55 % will only be considered in exceptional circumstances.

THIRD YEAR MODULES

SEMESTER 1

Core Modules			**Credits**
CH3201	ADVANCED ORGANIC CHEMISTRY		15
CH3202	ADVANCED INORGANIC CHEMISTRY		15
CH3255	ADVANCED CHEMISTRY PRACTICAL (PART A)		10
CH3256	ADVANCED CHEMISTRY PRACTICAL (PART B)		15
CH3200	CHEMISTRY GENERAL SKILLS		5
		Semester Total	**60**

SEMESTER 2

Core Modules			**Credits**
CH3206	ADVANCED PHYSICAL CHEMISTRY		15
CH3257	ADVANCED CHEMISTRY PRACTICAL (PART C)		15
Optional Modules			
30 CREDITS SELECTED FROM:			
CH3206	ADVANCED ANALYTICAL CHEMISTRY		15
CH3204	BIOLOGICAL CHEMISTRY		15
CH3205	METALS IN ORGANIC SYNTHESIS		15
		Semester Total	**60**

Note: CH3200 is a year-long module.

FOURTH YEAR MODULES

All modules are year long

Core modules		**Credits**
CH4261	CHEMISTRY PROJECT PART I *	30
CH4262	CHEMISTRY PROJECT PART II *	30
Optional modules: 4 from		
CH4201	ADVANCED STRUCTURE DETERMINATION	15
CH4202	ADVANCED SYNTHETIC METHODS	15
CH4203	EARTH SYSTEM SCIENCE	15
CH4204	GREEN CHEMISTRY	15
CH4207	COMPUTATIONAL CHEMISTRY & QUANTUM MECHANICS	15
CH4211	MEDICINAL CHEMISTRY	15
		Total 120

* Both these modules have to be passed at ≥40% to graduate.

Students who have transferred from the MChem Chemistry with Forensic Science to the MChem Chemistry programme *at the end of the 3rd year* (only in exceptional cases due to choice of final year project and RSC accreditation requirements) will also be able to choose CH4212 as an optional module

MChem CHEMISTRY WITH A YEAR ABROAD

FIRST, SECOND AND FOURTH YEAR MODULES

The first-, second-, and fourth year modules are the same as for the MChem degree.

THIRD YEAR MODULES

1) **M. Chem. Year Abroad**: Students who choose to spend a year abroad in the **USA** will spend their third year studying at a partner institution in the USA. In this year they will study modules equivalent to those studied in the third year of the MChem at Leicester. As a result there may be some restrictions on their option choices in the fourth year. Each case will be considered individually.
2) **M. Chem. Year Abroad:** Students who choose to spend a year abroad in the **European Union** will spend their third-year studying at a European University and will take the modules listed below by distance learning. (See below *)

MChem CHEMISTRY WITH A YEAR IN INDUSTRY

FIRST, SECOND AND FOURTH YEAR MODULES

The first-, second-, and fourth year modules are the same as for the MChem degree.

THIRD YEAR MODULES

Students will spend their third year in industry. Whilst on placement students will take the module listed below by distance learning, as well as the placement project.

For students studying in the European Union* or spending a year in industry

Core Modules (by distance learning)			**Credits**
CH3500	CHEMISTRY GENERAL SKILLS		5
CH3501	ADVANCED ORGANIC CHEMISTRY		15
CH3502	ADVANCED INORGANIC CHEMISTRY		15
CH3503	ADVANCED PHYSICAL CHEMISTRY		15
Optional modules (by distance learning)			
	15 CREDITS OF OPTIONS SELECTED FROM:		
CH3504	BIOLOGICAL CHEMISTRY		15
CH3505	METALS IN ORGANIC SYNTHESIS		15
CH3506	ADVANCED ANALYTICAL CHEMISTRY		15
Placement Project			
CH3551	PLACEMENT PROJECT PART I		25
CH3552	PLACEMENT PROJECT PART II		15
CH3553	PLACEMENT PROJECT PART III		15
		Year Total	**120**

MChem CHEMISTRY WITH FORENSIC SCIENCE

FIRST YEAR MODULES

SEMESTER 1

Core Modules			**Credits**
CH1000	CHEMICAL PRINCIPLES		15
CH1002	ORGANIC STRUCTURES AND FUNCTIONAL GROUPS		10
CH1003	MATHS FOR CHEMISTS		10
CH1030	INTRODUCTION TO FORENSIC SCIENCE		10
CH1063	CHEMISTRY PRACTICAL (FORENSIC) PART A		10
LW1173	ANALYSING THE ENGLISH LEGAL SYSTEM		10
		Semester Total	**65**

SEMESTER 2

Core Modules			Credits
CH1008	ORGANIC REACTIVITY AND MECHANISM		10
CH1006	COORDINATION CHEMISTRY		10
CH1007	KINETICS AND THERMODYNAMICS		10
CH1030	INTRODUCTION TO FORENSIC SCIENCE		5
CH1064	CHEMISTRY PRACTICAL (FORENSIC) PART B		10
LW1174	LAW, JUSTICE & SOCIETY		10
		Semester Total	**55**

Note: CH1003, CH1030 and CH1063 are year-long modules.

SECOND YEAR MODULES

SEMESTER 1

Core Modules			Credits
CH2005	BIFUNCTIONAL MOLECULES		10
CH2007	PHYSICAL CHEMISTRY OF COLLOIDS		10
CH2010	MOLECULAR SPECTROSCOPY		10
CH2040	INTRODUCTION TO ANALYTICAL CHEMISTRY		10
CH2071	CHEMISTRY PRACTICAL PART A		15
CH2013	SCIENCE COMMUNICATION AND CAREER SKILLS PART 1		5
		Semester Total	**60**

SEMESTER 2

Core Modules			Credits
CH2006	ORGANOMETALLIC CHEMISTRY		10
CH2009	CHEMISTRY OF RINGS		10
CH2011	KINETICS AND MECHANISM		10
CH2041	BIOANALYTICAL CHEMISTRY		10
CH2072	CHEMISTRY PRACTICAL PART B		20
		Semester Total	**60**

Note: CH2013 is a year-long module.

In order to continue on to the M.Chem. degree in year 3 students will normally have achieved at least a 2.1 standard at the end of the second year. Students whose overall average is less than 60% will be considered individually. Those achieving lower than 55 % will only be considered in exceptional circumstances.

THIRD YEAR MODULES

SEMESTER 1

Core Modules			Credits
CH3255	ADVANCED CHEMISTRY PRACTICAL (PART A)		10
CH3201	ADVANCED ORGANIC CHEMISTRY		15
CH3202	ADVANCED INORGANIC CHEMISTRY		15
CH3256	ADVANCED CHEMISTRY PRACTICAL (PART B)		15
CH3200	CHEMISTRY GENERAL SKILLS		5
		Semester Total	**60**

SEMESTER 2

Core Modules			Credits
CH3257	ADVANCED CHEMISTRY PRACTICAL (PART C)		15
CH3203	ADVANCED PHYSICAL CHEMISTRY		15
CH3212	FORENSIC SCIENCE		15

Optional Modules

15 CREDITS SELECTED FROM:			
CH3206	ADVANCED ANALYTICAL CHEMISTRY		15
CH3204	BIOLOGICAL CHEMISTRY		15
CH3205	METALS IN ORGANIC SYNTHESIS		15
		Semester Total	**60**

Note: CH3200 is a year-long module.

FOURTH YEAR MODULES

All modules are year long

Core modules		**Credits**
CH4261	CHEMISTRY PROJECT PART I *	30
CH4262	CHEMISTRY PROJECT PART II *	30
CH4212	ADVANCED FORENSIC SCIENCE	15
Optional modules: 3 from		
CH4201	ADVANCED STRUCTURE DETERMINATION	15
CH4202	ADVANCED SYNTHETIC METHODS	15
CH4203	EARTH SYSTEM SCIENCE	15
CH4204	GREEN CHEMISTRY	15
CH4207	COMPUTATIONAL CHEMISTRY & QUANTUM MECHANICS	15
CH4211	MEDICINAL CHEMISTRY	15
		Total 120

* Both these modules have to be passed at ≥40% to graduate.

MChem CHEMISTRY WITH FORENSIC SCIENCE WITH A YEAR ABROAD

FIRST, SECOND AND FOURTH YEAR MODULES

The first-, second-, and fourth-year modules are the same as for the MChem degree in Chemistry with Forensic Science.

THIRD YEAR MODULES

Students who choose to spend their third year in the **European Union** will study at a continental European University. Whilst on placement students will take the modules listed below by distance learning. (See modules on next page*)

Students who choose to spend their third year in the **USA** will study at a university in the USA taking modules which most closely match those undertaken by the students at Leicester, which provide a good foundation for the fourth-year course.

MChem CHEMISTRY WITH FORENSIC SCIENCE WITH A YEAR IN INDUSTRY

FIRST, SECOND AND FOURTH YEAR MODULES

The first-, second-, and fourth-year modules are the same as for the MChem degree in Chemistry with Forensic Science.

THIRD YEAR MODULES

Students will spend their third year in industry. Whilst on placement students will take the module listed below by distance learning, as well as the placement project.

For students studying in the European Union *or spending a year in industry

Core Modules (by distance learning)			**Credits**
CH3500	CHEMISTRY GENERAL SKILLS		5
CH3501	ADVANCED ORGANIC CHEMISTRY		15
CH3502	ADVANCED INORGANIC CHEMISTRY		15
CH3503	ADVANCED PHYSICAL CHEMISTRY		15
CH3512	FORENSIC SCIENCE		15
Placement Project			
CH3551	PLACEMENT PROJECT PART I		25
CH3552	PLACEMENT PROJECT PART II		15
CH3553	PLACEMENT PROJECT PART III		15
		Year Total	**120**

MChem PHARMACEUTICAL CHEMISTRY

FIRST YEAR MODULES

SEMESTER 1

Core Modules			**Credits**
CH1000	CHEMICAL PRINCIPLES		15
CH1002	ORGANIC STRUCTURES AND FUNCTIONAL GROUPS		10
CH1003	MATHS FOR CHEMISTS		10
CH1031	PHARMACEUTICAL CHEMISTRY SPECIAL TOPICS PART 1		10
CH1061	CHEMISTRY PRACTICAL PART A		15
		Semester Total	**60**

SEMESTER 2

Core Modules			**Credits**
CH1008	ORGANIC REACTIVITY AND MECHANISM		10
CH1006	COORDINATION CHEMISTRY		10
CH1007	KINETICS AND THERMODYNAMICS		10
CH1032	PHARMACEUTICAL CHEMISTRY SPECIAL TOPICS PART 2		15
CH1062	CHEMISTRY PRACTICAL PART B		15
		Semester Total	**60**

Note: CH1003 and CH1061 are both year-long modules.

SECOND YEAR MODULES

SEMESTER 1

Core Modules		**Credits**
CH2005	BIFUNCTIONAL MOLECULES	10
CH2010	MOLECULAR SPECTROSCOPY	10
CH2013	SCIENCE COMMUNICATION AND CAREER SKILLS PART 1	5
CH2007	PHYSICAL CHEMISTRY OF COLLOIDS	10

CH2073	CHEMISTRY PRACTICAL (PHARMACEUTICAL) PART A		10
BS2513	PHYSIOLOGY AND PHARMACOLOGY 1		20
		Semester Total	**65**

SEMESTER 2

Core Modules			**Credits**
CH2009	CHEMISTRY OF RINGS		10
CH2006	ORGANOMETALLIC CHEMISTRY		10
CH2011	KINETICS AND MECHANISM		10
CH2041	BIOANALYTICAL CHEMISTRY		10
CH2074	CHEMISTRY PRACTICAL (PHARMACEUTICAL) PART B		15
		Semester Total	**55**

Note: CH2013 is a year-long module.

In order to continue on to the M. Chem. degree in year 3 students will normally have achieved at least a 2.1 standard at the end of the second year. Students whose overall average is less than 60% will be considered individually. Those achieving lower than 55 % will only be considered in exceptional circumstances.

THIRD YEAR MODULES

SEMESTER 1

Core Modules			**Credits**
CH3201	ADVANCED ORGANIC CHEMISTRY		15
CH3202	ADVANCED INORGANIC CHEMISTRY		15
CH3255	ADVANCED CHEMICAL PRACTICAL (PART A)		10
CH3256	ADVANCED CHEMISTRY PRACTICAL (PART B)		15
CH3200	CHEMISTRY GENERAL SKILLS		5
		Semester Total	**60**

SEMESTER 2

Core Modules			**Credits**
CH3257	ADVANCED CHEMICAL PRACTICAL (PART C)		15
CH3204	BIOLOGICAL CHEMISTRY		15
CH3205	METALS IN ORGANIC SYNTHESIS		15
CH3211	PHARMACEUTICAL CHEMISTRY		15
		Semester Total	**60**

Note: CH3200 is a year-long module.

FOURTH YEAR MODULES

Core modules		**Credits**
CH4261	CHEMISTRY PROJECT PART I *	30
CH4262	CHEMISTRY PROJECT PART II *	30
CH4211	MEDICINAL CHEMISTRY	15

Optional modules: 3 from

CH4201	ADVANCED STRUCTURE DETERMINATION	15
CH4202	ADVANCED SYNTHETIC METHODS	15
CH4203	EARTH SYSTEM SCIENCE	15
CH4204	GREEN CHEMISTRY	15
CH4207	COMPUTATIONAL CHEMISTRY & QUANTUM MECHANICS	15

Total 120

* Both these modules have to be passed at ≥40% to graduate.

MChem PHARMACEUTICAL CHEMISTRY WITH A YEAR IN INDUSTRY

FIRST, SECOND AND FOURTH YEAR MODULES

The first-, second- and fourth year modules are the same as for the M. Chem. degree in Pharmaceutical Chemistry.

THIRD YEAR MODULES

Students will spend their third-year in industry. Whilst in industry students will take the following modules by distance learning, as well as a placement project.

Core Modules (by distance learning)			**Credits**
CH3500	CHEMISTRY GENERAL SKILLS		5
CH3501	ADVANCED ORGANIC CHEMISTRY		15
CH3502	ADVANCED INORGANIC CHEMISTRY		15
CH3505	METALS IN SYNTHESIS		15
CH3511	PHARMACEUTICAL CHEMISTRY		15
Placement Project			
CH3551	PLACEMENT PROJECT PART I		25
CH3552	PLACEMENT PROJECT PART II		15
CH3553	PLACEMENT PROJECT PART III		15
		Year Total	**120**