Programme Title: FFX2 BSc Chemical Sciences with Foundation

Programme Specification (UG)

Awarding body / institution:	Queen Mary University of London
Teaching institution:	Queen Mary University of London
Name of final award and programme title:	Bachelor of Science BSc
Name of interim award(s):	Foundation Certificate (FdCert) - exit award only
Duration of study / period of registration:	4 years
QMUL programme code / UCAS code(s):	FFX2, USEF-QM4CHE1 , USCHE
QAA Benchmark Group:	
FHEQ Level of Award :	
Programme accredited by:	
Date Programme Specification approved:	
Responsible School / Institute:	School of Physical and Chemical Sciences

Schools / Institutes which will also be involved in teaching part of the programme:

School of Biological & Behavioural Sciences

School of Languages, Linguistics & Film

Collaborative institution(s) / organisation(s) involved in delivering the programme:

Programme outline

The BSc Chemical Sciences with Foundation provides an alternative route onto a range of Chemistry-based undergraduate degrees, combining a foundation year with a traditional university degree in an integrated four-year programme (1+3 years). QMUL offers tailored pathways for subjects across science and engineering.

Our BSc Chemical Sciences with Foundation is open to home/EU and international students and is taught entirely at the Mile End campus by university staff. In-line with Queen Mary's 2030 Strategy, high quality learning resources and interactive sessions with academic staff will be available online. As a foundation student, you have access to all QMUL's facilities and will be a full-time student of the university. Both UK/EU and international students should apply directly through UCAS.

Highlights:
- Opportunity to progress onto chemical undergraduate degrees
- Study at campus-based university within easy reach of all of London's attractions
- Eligible for funding through Student Loans Company (UK/EU students only)

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- Full access to all student facilities (academic, welfare, IT, library, social and sport)
- Experienced and well-qualified teaching staff, many of whom teach on undergraduate and postgraduate programmes

Aims of the programme

The initial year of the integrated BSc Chemical Sciences with Foundation will equip you with the skills and knowledge to undertake an undergraduate degree in chemical sciences. Successful completion of this programme at the appropriate level guarantees you a place on our Chemistry BSc or Pharmaceutical Chemistry BSc without having to re-apply through UCAS.

What will you be expected to achieve?

- Pass 105 credits including SEF030 Communication in Science and Technology, SEF003 Introductory Chemistry , SEF004 A Closer Look at Chemistry and either SEF040 Mathematics A or SEF041 Mathematics B.
- Achieve an overall average of 60% with at least 50% in SEF003 Introductory Chemistry and SEF004 A Closer Look at Chemistry.
- For progression onto particular programmes there may be additional requirements. Please check the handbook or contact fedu@qmul.ac.uk for more information.

Please note that the following information is only applicable to students who commenced their Level 4 studies in 2017/18, or 2018/19

In each year of undergraduate study, students are required to study modules to the value of at least 10 credits, which align to one or more of the following themes:

- networking
- multi- and inter-disciplinarity
- international perspectives
- enterprising perspectives.

These modules will be identified through the Module Directory, and / or by your School or Institute as your studies progress.

Academic Content:	
A 1	Introduction to organic chemistry: identification of functional groups and classes of organic compounds, organic nomenclature, the hybridisation approach to rationalising bonding, isomerism.
A 2	Introduction to atomic structure: electrons, protons and neutrons, mass and atomic numbers, isotopes and radioactivity, measures of size of atoms and ions.
A 3	Define the rate, order and activation energy of a chemical reaction and understand how catalysts affect the kinetics of reactions.

A4	Understand the basic principles of thermodynamics and carry out calculations on enthalpy changes in reactive systems.
A5	Mathematical topics such as algebra, functions, geometry and trigonometry, and an introduction to the techniques of calculus.

Disciplinary Skills - able to:	
B1	present data in reports in a readily-assimilated fashion, and in accord with scientific conventions
B2	balance chemical equations and perform calculations relating mass, concentration and molar quantity.
B3	discuss the reactivity of a range of organic compounds, including alkenes, halogenated alkanes, aromatic and carbonyl compounds.
B4	understand a range of appropriate and relevant experimental techniques and how they are used; be able to perform some of them.

Attributes:	
C1	To grasp the principles and practices of their field of study
C2	To produce analyses which are grounded in evidence
C3	To apply their analytical skills to investigate unfamiliar problems
C4	To work individually and in collaboration with others
C5	To develop a strong sense of intellectual integrity
C6	To acquire substantial bodies of new knowledge

How will you learn?

Independent study
For every hour spent at university you will be expected to complete additional hours of independent study. Your individual study time could be spent preparing for, or following up on formal study sessions; reading; assessing data from experiments; completing lab reports; and revising for examinations.
The direction of your individual study will be guided by the formal study and laboratory sessions you attend, along with your reading and assignments. However, we expect you to demonstrate an active role in your own learning by reading widely and expanding your own knowledge, understanding and critical ability.
Independent study will foster in you the ability to identify your own learning needs and determine which areas you need to focus on to become proficient in your subject area. This is an important transferable skill and will help to prepare you for the transition to working life.

How will you be assessed?

To pass a module, you must achieve an overall mark of 40% or above. The overall mark in most modules is based on your performance in both the examination and coursework, the weighting of these two components varies per module. You must also meet the necessary progression requirements in order to progress to the next year, at present this is a minimum of 60% average across all modules though this is subject to change.

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How is the programme structured?

Please specify the structure of the programme diets for all variants of the programme (e.g. full-time, part-time - if applicable). The description should be sufficiently detailed to fully define the structure of the diet.

The programme structure outlined below is indicative of what you will study. It may change slightly from year to year as new topics are introduced and after we have listened to current student feedback on teaching.

The chemistry foundation modules are designed to best prepare you for continuing your studies in chemical sciences at undergraduate level. You will take 8 modules in total over two semesters, starting in September.

Year Long Modules
Compulsory, depending on your previous Maths qualifications, either:
SEF040 Mathematics A (double module, runs across semester 1 and 2)
SEF041 Mathematics B (double module, runs across semester 1 and 2)

Semester 1
Compulsory modules:
SEF030 Communication in Science & Technology
SEF003 Introductory Chemistry
SEF005 Physics – Mechanics and Materials

Semester 2
Compulsory modules:
SEF004 A Closer Look at Chemistry
SEF007 Physics – Electricity and Atomic Physics

Academic Year of Study

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester
Communication in Science and Engineering (CST)	SEF030	15	3	Core	0	Semester 1
Introductory Chemistry	SEF003	15	3	Compulsory	0	Semester 1
Mathematics A	SEF040	30	3	Elective	0	Semesters 1 & 2
Mathematics B	SEF041	30	3	Elective	0	Semesters 1 & 2
Physics - Mechanics and Materials	SEF005	15	3	Compulsory	0	Semester 1
A Closer Look at Chemistry	SEF004	15	3	Compulsory	0	Semester 2

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Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester
Physics - Electricity and Atomic Physics	SEF007	15	3	Compulsory	0	Semester 2
Molecules to Cells	SEF032	15	3	Compulsory	0	Semester 2

What are the entry requirements?

Entry requirements for the BSc Chemical Sciences with Foundation are lower than for direct entry to a three-year BSc. If you would like to discuss your individual situation, you can contact the admissions team via email at sbcs-admissions@qmul.ac.uk

A-levels: Grades CCC at A-Level. This must include A-Level Biology or Chemistry. This must include at least one A-Level science subject of Biology, Chemistry, Maths, Further Maths, Physics or Psychology.
IB: International Baccalaureate Diploma with a minimum of 26 points overall, including 3,3 from two Higher Level subjects. This must include Biology or Chemistry at Higher Level. A second science subject at Higher Level of Chemistry, Maths, Further Maths, Physics or Psychology is also required.
BTEC: Extended Diploma in Applied Science (or relevant subject) at grades DMM
Access: We consider applications from students with the Access to Higher Education Diploma in a science discipline e.g. Biology, Chemistry, Maths or Physics. The minimum academic requirement is to achieve 60 credits overall, with 45 credits at Level 3, of which 15 credits must be at Distinction, 15 credits at Merit and 15 credits at Pass or higher. Applications are considered on a case by case basis, and we may request an interview. Due to the high volume of applications, we do not make offers of study purely on the basis of meeting grade requirements.

EU and international students whose qualifications are not listed should email sbcs-admissions@qmul.ac.uk for their country specific entry requirements.

We consider every application on its individual merits and will take into consideration your individual educational experiences and context.

How will the quality of the programme be managed and enhanced? How do we listen to and act on your feedback?

The Student-Staff Liaison Committee (SSLC) provides a formal means of communication and discussion between the School and its students. The committee consists of student representatives from each year in the School, together with appropriate representation from staff within the School. It is designed to respond to the needs of students, as well as act as a forum for discussing programme and module developments. The Student-Staff Liaison Committees meets regularly throughout the year.

The Teaching & Learning Committee advises the School's Director of Taught Programmes on all matters relating to the delivery of taught programmes at school level, including monitoring the application of relevant QM policies and reviewing proposals for module and programme approval and amendment before submission to Taught Programmes Board. Student views are incorporated in the committee's work in a number of ways, such as through consideration of student surveys and input from the SSLC.

All schools/institutes operate an Annual Programme Review of their taught undergraduate and postgraduate provision. APR is a continuous process of reflection and action planning which is owned by those responsible for programme delivery; the main document of reference for this process is the Taught Programmes Action Plan (TPAP) which is the summary of the school/institute's work throughout the year to monitor academic standards and to improve the student experience. Students' views are considered in this process through analysis of the NSS and module evaluations.

What academic support is available?

Each student is provided with an advisor who is their main point of contact for advice regarding academic matters and for assistance with pastoral concerns, throughout their whole programme. Students can see their advisors in their office hours or arrange an appointment via email. Moreover, if and when advisors are unavailable or cannot help with a specific problem, the

School has several Senior Advisors to assist with student concerns.

The School also operates a PASS programme for peer guidance.

How inclusive is the programme for all students, including those with disabilities?

Queen Mary has a central Disability and Dyslexia Service (DDS) that offers support for all students with disabilities, specific learning difficulties and mental health issues. The DDS supports all Queen Mary students: full-time, part-time, undergraduate, postgraduate, UK and international at all campuses and all sites.

Students can access advice, guidance and support in the following areas:
• Finding out if you have a specific learning difficulty like dyslexia
• Applying for funding through the Disabled Students' Allowance (DSA)
• Arranging DSA assessments of need
• Special arrangements in examinations
• Accessing loaned equipment (e.g. digital recorders)
• Specialist one-to-one "study skills" tuition
• Ensuring access to course materials in alternative formats (e.g. Braille)
• Providing educational support workers (e.g. note-takers, readers, library assistants)
• Mentoring support for students with mental health issues and conditions on the autistic spectrum.

Programme-specific rules and facts

N/A

Links with employers, placement opportunities and transferable skills

Upon completion of the 4-year programme, half of our graduates find work or further training in the life sciences including teaching, research or environmental monitoring and regulation, sales work and careers in the growing biotechnology industry. The remaining half move on to other jobs or further training but take transferable skills from a scientific education: numeracy, computer literacy, data handling and analysis, descriptive and critical writing, familiarity with biotechnology and scientific methods.

Recent graduate roles include:
laboratory technician,
data analyst,
public health officer,
market researcher.
NHS administrator,
medical representative,
environmental consultant.

Programme Specification Approval

Person completing Programme Specification: Sarahlouise Lawrence

Queen Mary University of London

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Person responsible for management of programme:	Dr Chris Bray
Date Programme Specification produced / amended by School / Institute Learning and Teaching Committee:	
Date Programme Specification approved by Taught Programmes Board:	

Queen Mary University of London