Programme Outline

The Science and Engineering Foundation Programme (SEFP) provides an alternative route onto undergraduate degrees, combining a foundation year with a traditional university degree in an integrated four- or five-year programme (1+3 or 1+4). QMUL offers tailored pathways for subjects across science and engineering; go to the foundation programme website to see full details of all SEFP options.[http://www.sefp.qmul.ac.uk/]

Foundation programmes are open to home/EU and international students and taught entirely at the Mile End campus by university staff. 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 biological 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)
- 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
Programme Title: FFX1 BSc FT Chemistry with Foundation

Aims of the Programme
Our four-year chemistry foundation programme 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. You can also use your foundation qualification to progress onto degree programmes at other UK or overseas universities.

What Will You Be Expected to Achieve?
Pass of a minimum of 105 credits (7 modules) with an overall average of ≥60%

Academic Content:

| A1 | Introduction to organic chemistry: identification of functional groups and classes of organic compounds, organic nomenclature, the hybridisation approach to rationalising bonding, isomerism. |
| A2 | Introduction to atomic structure: electrons, protons and neutrons, mass and atomic numbers, isotopes and radioactivity, measures of size of atoms and ions. |
| A3 | 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 | Microbes: The basic biology of viruses, bacteria, protists and fungi. |
| A6 | Cell Biology: Prokaryotic and eukaryotic cellular structure, cellular organisation, cellular organelles and lipid membranes. |
| A7 | 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. |
Programme Title: FFX1 BSc FT Chemistry with Foundation

Attributes:

<table>
<thead>
<tr>
<th>C1</th>
<th>- To grasp the principles and practices of their field of study</th>
</tr>
</thead>
<tbody>
<tr>
<td>C2</td>
<td>- To produce analyses which are grounded in evidence</td>
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<tr>
<td>C3</td>
<td>- To apply their analytical skills to investigate unfamiliar problems</td>
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<tr>
<td>C4</td>
<td>- To work individually and in collaboration with others</td>
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<tr>
<td>C5</td>
<td>- To develop a strong sense of intellectual integrity</td>
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<tr>
<td>C6</td>
<td>- To acquire substantial bodies of new knowledge</td>
</tr>
</tbody>
</table>

QMUL Model Learning Outcomes - Level 4:

D1

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 typically being 70% and 30% respectively. You must attend a minimum of 75% of all scheduled classes and submit a corresponding level of coursework assignments for each module.

How is the Programme Structured?
Please specify the full time and part time programme diets (if appropriate).

The programme structure outlined below is indicative of what you will study. It may change slightly from year to year as new
Programme Title: FFX1 BSc FT Chemistry with Foundation

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.

Semester 1 - four modules
One from:
SEF009   English Language I
SEF030   Communication in Science & Technology

One from:
SEF014   Principles of Mathematics
SEF001   Mathematics I*
*You will be allocated this module automatically depending on your previous maths qualifications and ability.

Compulsory module:
SEF003   Introductory Chemistry

One from:
SEF005   Physics – Mechanics and Materials
SEF031   Form & Function in Biology

Semester 2 - four modules
Students who take English Language I in semester 1 will take:
SEF030   Communication in Science & Technology

One from:
SEF001   Mathematics I
SEF002   Mathematics II

Compulsory modules:
SEF004   A Closer Look at Chemistry
SEF032   Molecules to Cells

Other options:
SEF007   Physics – Electricity and Atomic Physics  OR
SEF033   Diversity and Ecology
QMUL Model

Students are required to undertake the equivalent of one module (15 credits in 2017/18) per year of study which has been identified as meeting the requirements of the QMUL Model. Each of these modules has been designed to combine the best of QMUL’s academic excellence with your ability to identify and develop your skills, networks and experience. This will help to ensure you become a graduate who can undertake further study or secure graduate employment in areas that interest you, and will support your ability to position yourself to find the right job or opportunity for you. The relevant module for your first year of study in 2017/18 is indicated below.

Where more than one module is specified, this is because pertinent elements from these modules have been identified as being appropriate to the QMUL Model and when studied together, deliver the equivalent content of one 15-credit QMUL Model module.

The QMUL Model modules for future years and associated Learning Outcomes will be identified as your studies continue.

Should Professional, Statutory and Regulatory Body requirements apply to your programme of study, these will be taken into account in the specification of QMUL Model requirements.

### Academic Year of Study

<table>
<thead>
<tr>
<th>Module Title</th>
<th>Module Code</th>
<th>Credits</th>
<th>Level</th>
<th>Module Selection Status</th>
<th>Academic Year of Study</th>
<th>Semester</th>
<th>QMUL Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>English I</td>
<td>SEF009</td>
<td>15</td>
<td>3</td>
<td>Elective</td>
<td>1</td>
<td>Semester 1</td>
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<tr>
<td>Principles of Maths</td>
<td>SEF014</td>
<td>15</td>
<td>3</td>
<td>Elective</td>
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<td>Semester 1</td>
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<tr>
<td>Introductory Chemistry</td>
<td>SEF003</td>
<td>15</td>
<td>3</td>
<td>Compulsory</td>
<td>1</td>
<td>Semester 1</td>
<td>No</td>
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<tr>
<td>Form and Function in Biology</td>
<td>SEF031</td>
<td>15</td>
<td>3</td>
<td>Elective</td>
<td>1</td>
<td>Semester 1</td>
<td>No</td>
</tr>
<tr>
<td>Communication in Science and Technology</td>
<td>SEF030</td>
<td>15</td>
<td>3</td>
<td>Core</td>
<td>1</td>
<td>Semesters 1 &amp; 2</td>
<td>No</td>
</tr>
<tr>
<td>Mathematics I</td>
<td>SEF001</td>
<td>15</td>
<td>3</td>
<td>Compulsory</td>
<td>1</td>
<td>Semesters 1 &amp; 2</td>
<td>No</td>
</tr>
<tr>
<td>Mathematics II</td>
<td>SEF002</td>
<td>15</td>
<td>3</td>
<td>Elective</td>
<td>1</td>
<td>Semester 2</td>
<td>No</td>
</tr>
<tr>
<td>Molecules to Cells</td>
<td>SEF032</td>
<td>15</td>
<td>3</td>
<td>Compulsory</td>
<td>1</td>
<td>Semester 2</td>
<td>No</td>
</tr>
<tr>
<td>A Closer Look at Chemistry</td>
<td>SEF004</td>
<td>15</td>
<td>3</td>
<td>Compulsory</td>
<td>1</td>
<td>Semester 2</td>
<td>No</td>
</tr>
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Programme Title: FFX1 BSc FT Chemistry with Foundation

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<th>Academic Year of Study</th>
<th>Semester</th>
<th>QMUL Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diversity and Ecology</td>
<td>SEF033</td>
<td>15</td>
<td>3</td>
<td>Elective</td>
<td>1</td>
<td>Semester 2</td>
<td>No</td>
</tr>
<tr>
<td>Physics - Electricity and Atomic Physics</td>
<td>SEF007</td>
<td>15</td>
<td>3</td>
<td>Elective</td>
<td>1</td>
<td>Semester 2</td>
<td>No</td>
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</tbody>
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What Are the Entry Requirements?

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

A-levels: minimum CCC, to include two science subjects: biology or chemistry and a second science subject (biology, chemistry, maths, physics or psychology)

IB: 26 points overall with grade 3 in two Higher Level subjects (biology or chemistry plus a further science subject)

BTEC: Extended Diploma in Applied Science (or relevant subject) at grades DMM

Access: Access to Higher Education Diploma – Overall Pass with a minimum of 48 Level 3 credits

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

How Do We Listen 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.

Academic Support

Each student is provided with a personal academic guidance tutor (or "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.

Programme-specific Rules and Facts

N/A
Specific Support for Disabled Students

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.

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 | Dr Chris Faulkes |
| Person responsible for management of programme | Dr Chris Faulkes |
| Date Programme Specification produced/amended by School Learning and Teaching Committee | 8 Aug 2017 |
| Date Programme Specification approved by Taught Programmes Board | |

Queen Mary
University of London