# Programme Information

<table>
<thead>
<tr>
<th>Programme Title</th>
<th>Programme Code</th>
<th>HECoS Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Biology and Bio-Entrepreneurship</td>
<td></td>
<td>F1U3</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Award</th>
<th>Length of Study</th>
<th>Mode of Study</th>
<th>Entry Point(s)</th>
<th>Total Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRes</td>
<td>12 months</td>
<td>Full-time</td>
<td>Annually in October</td>
<td>90 180</td>
</tr>
</tbody>
</table>

## Ownership

<table>
<thead>
<tr>
<th>Awarding Institution</th>
<th>Imperial College London</th>
<th>Faculty</th>
<th>Faculty of Natural Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Institution</td>
<td>Imperial College London</td>
<td>Department</td>
<td>Chemistry</td>
</tr>
<tr>
<td>Associateship</td>
<td>N/A</td>
<td>Main Location(s) of Study</td>
<td>Various Locations including White City campus</td>
</tr>
</tbody>
</table>

## External Reference

- Relevant QAA Benchmark Statement(s) and/or other external reference points: Master’s Degree in Chemistry
- FHEQ Level: Level 7
- EHEA Level: 2nd Cycle

## External Accreditor(s) (if applicable)

- External Accréditor 1: N/A

## Collaborative Provision

<table>
<thead>
<tr>
<th>Collaborative partner</th>
<th>Collaboration type</th>
<th>Agreement effective date</th>
<th>Agreement expiry date</th>
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<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

## Specification Details

| Programme Lead           | Dr Laura Barter  
                         | Dr Rudiger Woscholski |
|--------------------------|---------------------|
| Student cohorts covered by specification | 2022-23 entry |
| Date of introduction of programme     | October 01          |
Programme Overview

Chemical Biology is an emerging discipline that sits at the interface of traditional chemistry and biology, drawing on the tools and ideas of modern Physical Sciences and applying them to the solution of biological problems at the molecular level.

This is a discipline that is perfectly poised to address the next great challenge in biological science – to understand how gene products are used in and interact with the cellular environment.

The programme is run by the Institute of Chemical Biology’s Centre for Doctoral Training. The research element provides physical scientists with the ability to bridge disparate fields and gain the confidence to grapple with biomolecular research in a multidisciplinary environment.

Students can apply for a one-year stand-alone MRes course or a four-year programme (one year MRes followed by a three-year PhD (F1ICB)).

Learning Outcomes

The programme will enable you to:

1. **Demonstrate** a deep understanding of the core concepts in chemical biology associated to your chosen research area, with the ability to **conceptualise** and **explore** theories, data and methods relevant to the field.
2. **Employ** research and prototyping techniques, including information retrieval, experimental design and statistics, modelling, sampling, biomolecular and physical/chemical/engineering techniques and laboratory safety.
3. **Independently evaluate** and **apply** the essential facts, concepts, principles and theories relevant to the student’s project.
4. **Perform** research within a multi-disciplinary environment, **developing** management and communication skills, including problem definition, project design, decision processes, teamwork, written and oral reports, scientific publications.
5. **Critically evaluate** your own and others’ work, including an appreciation of novelty and significance.
6. **Recognise and critically appraise** broader issues in biomedical research including the commercialisation and prototyping of tools and technologies relevant to the research area.
7. **Compose and deliver** written, oral and visual science communications, which are effective at conveying the message to a variety of audiences.
8. **Demonstrate** laboratory and/or computational **skills** required to perform biomedical research and prototyping.
9. **Design** a novel research project and **compose** a corresponding grant proposal, appropriate for submission to an academic funding body.
10. **Propose** tractable research objectives for your research project.

The Imperial Graduate Attributes are a set of core competencies which we expect students to achieve through completion of any Imperial College degree programme. The Graduate Attributes are available at: [www.imperial.ac.uk/students/academic-support/graduate-attributes](http://www.imperial.ac.uk/students/academic-support/graduate-attributes)

Entry Requirements

**Academic Requirement**

The minimum requirement is normally a 2:1 UK Bachelor’s Degree with Honours in a physical science or engineering based subject (or a comparable qualification recognised by the College). Applicants with at least 50% physical sciences content in Life Sciences/Biomedical degrees may be considered.

For further information on entry requirements, please go to PG: [www.imperial.ac.uk/study/pg/apply/requirements/pgacademic](http://www.imperial.ac.uk/study/pg/apply/requirements/pgacademic)
Non-academic Requirements
None

English Language Requirement
Standard requirement (PG)
Please check for other Accepted English Qualifications

Admissions Test/Interview
Candidates will be invited for interview in person or online.

The programme’s competency standards documents can be found at:
https://www.imperial.ac.uk/chemistry/postgraduate/mres/

Learning & Teaching Approach

Learning and Teaching Delivery Methods
The course’s aim is to teach the practice of science with the learning and teaching strategy being constructively aligned with the knowledge, skills and abilities required by professional scientists in academia, government, industries, and NGOs.
Most of the weighting in the course is focussed on the research component- a proposal writing exercise and the research project – which reflect the major activities undertaken by modern scientists. In addition, the taught component exposes you to fields outside your immediate project area, including generic research skills at the interface of physical and biological sciences and the entrepreneurial skills of designing and prototyping equipment relevant to this research area.
Across the programme, a range of teaching methods are used including: laboratory work, computational work, tutorials, seminars, lectures, practicals, workshops, facility tours and online material.

Overall Workload
Your overall workload consists of face-to-face sessions and independent learning. While your actual contact hours may vary according to the optional modules you choose to study, the following gives an indication of how much time you will need to allocate to different activities at each level of the programme. At Imperial, each ECTS credit taken equates to an expected total study time of 25 hours. Therefore, the expected total study time is 2250 hours per year comprising approximately 375 hours for the HackEdu prototyping practical, 125 hours of webinar preparation, 250 hours of planning and designing the research project guided by your supervisors, and 1500 hours of individual research project work.

Assessment Strategy

Assessment Methods
Each assessment is designed to test your appropriate acquisition of separate skills required for the furthering of a career in chemical biology research and associated professional paths (All assessments are linked to the intended learning outcomes listed above as indicated in brackets).

The Webinar presentation assess your ability to condense a body of knowledge on a subject treated in a textbook and orally present this summary clearly with the help of visual tools using a narrated PowerPoint presentation (Learning outcomes 1, 2, 3, and 7).

The HackEdu assessments will test your understanding and communication of various prototyping methods and experimental evaluation of the created prototype equipment (Learning outcomes 1, 2, and 6 - 8).

The Project proposal will assess your aptitude to critically analyse published scientific literature, plan the work packages necessary to complete the research project and reflect on the ethical, safety and commercial/societal considerations (Learning outcomes 1,3, 5-8 and 10).

The Research Project will be judged through a manuscript, a presentation, and an oral examination. The manuscript will evaluate your skills at presenting, describing and critically discussing your own experimental data in the format typical of an article published in peer-reviewed journals. At the presentation, you will be assessed on your ability to present your research to your examiners with the help of visual tools in a clear, concise fashion, summarising your findings and their relevance. You will also be tested on your ability to answer questions directly relevant to your project. Your oral examination will probe your knowledge and understanding of the relevant literature, methodology and research outcomes including theoretical and practical knowledge of the subject area, of the experimental techniques used and their limitations as well as the proposed follow-on work (Learning outcomes 1-8 and 10).
**Academic Feedback Policy**

With the exception of the major research project module you will receive feedback within 2 week of submission and where this is not possible students will be advised. This feedback should inform learning and performance in subsequent modules.

The College’s Policy on Academic Feedback and guidance on issuing provisional marks to students is available at: [www.imperial.ac.uk/about/governance/academic-governance/academic-policy/exams-and-assessment/](http://www.imperial.ac.uk/about/governance/academic-governance/academic-policy/exams-and-assessment/)

**Re-sit Policy**


**Mitigating Circumstances Policy**


**Additional Programme Costs**

This section should outline any additional costs relevant to this programme which are not included in students’ tuition fees.

<table>
<thead>
<tr>
<th>Description</th>
<th>Mandatory/Optional</th>
<th>Approximate cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laptop with camera and microphone</td>
<td>Mandatory</td>
<td>£400-600</td>
</tr>
</tbody>
</table>

**Important notice:** The Programme Specifications are the result of a large curriculum and pedagogy reform implemented by the Department and supported by the Learning and Teaching Strategy of Imperial College London. The modules, structure and assessments presented in this Programme Specification are correct at time of publication but might change as a result of student and staff feedback and the introduction of new or innovative approaches to teaching and learning. You will be consulted and notified in a timely manner of any changes to this document.
## Programme Structure

### Year 1 - FHEQ Level 7

Students study all core modules

<table>
<thead>
<tr>
<th>Code</th>
<th>Module Title</th>
<th>Core/ Compulsory/ Elective</th>
<th>Group</th>
<th>Term</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM70043</td>
<td>Webinar Design and Delivery</td>
<td>Compulsory</td>
<td>N/A</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>CHEM70044</td>
<td>HackEdu</td>
<td>Compulsory</td>
<td>N/A</td>
<td>1-3</td>
<td>15</td>
</tr>
<tr>
<td>CHEM70045</td>
<td>Proposal for Chemical Biology Research Project</td>
<td>Core</td>
<td>N/A</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>CHEM70046</td>
<td>Chemical Biology Research Project</td>
<td>Core</td>
<td>N/A</td>
<td>2-3</td>
<td>60</td>
</tr>
</tbody>
</table>

**Credit Total** | **90**

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1 Core modules are those which serve a fundamental role within the curriculum, and for which achievement of the credits for that module is essential for the achievement of the target award. Core modules must therefore be taken and passed in order to achieve that named award. Compulsory modules are those which are designated as necessary to be taken as part of the programme syllabus. Compulsory modules can be compensated. Elective modules are those which are in the same subject area as the field of study and are offered to students in order to offer an element of choice in the curriculum and from which students are able to select. Elective modules can be compensated.
Progression and Classification

**Award of a Postgraduate Degree (including MRes)**
To qualify for the award of a postgraduate degree a student must have:
1. accumulated credit to the value of no fewer than 90 credits
2. pass all modules of the programme

**Classification of Postgraduate Taught Awards**
The College sets the class of Degree that may be awarded as follows:
1. Distinction: The student has achieved an overall weighted average of 70.00% or above across the programme.
2. Merit: The student has achieved an overall weighted average of above 60.00% but less than 70.00%.
3. Pass: The student has achieved an overall weighted average of 50.00% but less than 60.00%.

   a. For a Masters, students must normally achieve a distinction (70.00%) mark in the dissertation or designated final major project (as designated in the programme specification) in order to be awarded a distinction.
   b. For a Masters, students must normally achieve a minimum of a merit (60.00%) mark in the dissertation or designated final major project (as designated in the programme specification) in order to be awarded a merit

**Programme Specific Regulations**

N/A
Supporting Information

The Programme Handbook is available upon enrolment.

The Module Handbook is available upon enrolment.

The College’s entry requirements for postgraduate programmes can be found at: www.imperial.ac.uk/study/pg/apply/requirements

The College’s Quality & Enhancement Framework is available at: www.imperial.ac.uk/registry/proceduresandregulations/qualityassurance

The College’s Academic and Examination Regulations can be found at: www.imperial.ac.uk/about/governance/academic-governance/regulations

Imperial College is an independent corporation whose legal status derives from a Royal Charter granted under Letters Patent in 1907. In 2007 a Supplemental Charter and Statutes was granted by HM Queen Elizabeth II. This Supplemental Charter, which came into force on the date of the College's Centenary, 8th July 2007, established the College as a University with the name and style of "The Imperial College of Science, Technology and Medicine". www.imperial.ac.uk/admin-services/secretariat/college-governance/charters/

Imperial College London is regulated by the Office for Students (OfS) www.officeforstudents.org.uk/advice-and-guidance/the-register/

This document provides a definitive record of the main features of the programme and the learning outcomes that a typical student may reasonably be expected to achieve and demonstrate if s/he takes full advantage of the learning opportunities provided. This programme specification is primarily intended as a reference point for prospective and current students, academic and support staff involved in delivering the programme and enabling student development and achievement, for its assessment by internal and external examiners, and in subsequent monitoring and review.

Modifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Approved</th>
<th>Date</th>
<th>Paper Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum Review</td>
<td>Programmes Committee</td>
<td>25/01/22</td>
<td>PC.2021.32</td>
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