

**MRes in Biological and Physical Chemistry**

<p>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 intended as a reference point for prospective students, current students, external examiners and academic and support staff involved in delivering the programme and enabling student development and achievement.</p>			
<b>Programme Information</b>			
Programme Title	MRes in Biological and Physical Chemistry		
Award(s)	MRes		
Programme Code	F1U2 (fulltime)/F1U224 (part-time)		
Associateship	None		
Awarding Institution	Imperial College London		
Teaching Institution	Imperial College London		
Faculty	Faculty of Natural Sciences		
Department	Department of Chemistry		
Main Location of Study	South Kensington and White City Campuses		
Mode and Period of Study	1 academic year, full-time 2 academic years, part-time		
Cohort Entry Points	Annually in October		
Relevant <a href="#">QAA Benchmark Statement(s)</a> and/or other external reference points	<a href="#">Master's Degrees in Chemistry</a>		
Total Credits	ECTS:	90	CATS: 180
<a href="#">FHEQ Level</a>	Level 7		
<a href="#">EHEA Level</a>	2 <sup>nd</sup> cycle		
External Accreditor(s)	None		
<b>Specification Details</b>			
Student cohorts covered by specification	2021-22 entry		
Person(s) responsible for the specification	Dr Laura Barter, Programme Director Dr Rudiger Woscholski, Programme Director		
Date of introduction of programme	October 2001		

Date of programme specification/revision	August 2021
<b>Programme Overview</b>	
<p>Advances in the understanding of biomolecular processes have often depended upon the collaborative efforts of biochemists, chemists and physicists.</p> <p>This course will enable you to bridge the gap that can exist between the physical and bioscience disciplines due to differences in language, perspective and methodology.</p> <p>You will receive training from both academic and industrial leaders in the biology and physical sciences fields.</p> <p>At the end of this course graduates will be ideally placed to undertake PhD studies in collaborative multidisciplinary research project, or to seek employment within the agri-science or biomedical industrial sector.</p>	
<b>Learning Outcomes</b>	
<p>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: <a href="http://www.imperial.ac.uk/students/academic-support/graduate-attributes">www.imperial.ac.uk/students/academic-support/graduate-attributes</a></p>	
<p><b>The programme aims to:</b></p> <ul style="list-style-type: none"> <li>• Produce physical sciences postgraduates equipped to pursue careers at the interface between the physical and life sciences, in academia, industry, the public sector and non-governmental organisations;</li> <li>• Develop the ability to undertake research in multidisciplinary teams at this interface;</li> <li>• Develop a knowledge of a range of basic and advanced biomolecular concepts;</li> <li>• Develop research and analytical skills related to biomolecular research;</li> <li>• Develop oral and written scientific presentation skills.</li> </ul> <p>Considering the above aims, the main outcome of the programme is to provide opportunities for postgraduate students to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas:</p> <p><b>Knowledge and Understanding of:</b></p> <ul style="list-style-type: none"> <li>• Core concepts in biological and physical chemistry – essential cell and molecular biology, physical techniques in biology, systems &amp; chemical biology, analytical tools &amp; techniques, molecular basis of diseases, theoretical approaches to biology, imaging in chemistry and biology;</li> <li>• Research techniques, including information retrieval, experimental design and statistics, modelling, sampling, biomolecular techniques, molecular biology, and laboratory safety;</li> <li>• Detailed knowledge and understanding of the essential facts, concepts, principles and theories relevant to the student's project;</li> <li>• Management and communication skills, including problem definition, project design, decision processes, teamwork, written and oral reports, scientific publications.</li> </ul> <p><b>Intellectual Skills - able to:</b></p> <ul style="list-style-type: none"> <li>• Analyse and evaluate biomolecular problems using a multidisciplinary integrated approach;</li> </ul>	

- Integrate and evaluate information;
- Formulate and evaluate hypotheses;
- Plan, conduct and write-up a programme of original research and its impact on society and economy.

**Practical Skills - able to:**

- Plan and execute safely a series of experiments;
- Use laboratory-based methods to generate data;
- Analyse experimental results and determine their strength and validity;
- Prepare technical reports;
- Give technical presentations;
- Use the scientific literature effectively;
- Use computer packages.

**Professional Skills Development - able to:**

- Communicate effectively through oral presentations, computer processing and presentations, written reports and scientific publications;
- Management skills: decision processes, objective criteria, problem definition, project design and evaluation, risk management, teamwork and coordination;
- Integrate and evaluate information from a variety of sources including industry 4.0 platforms;
- Transfer techniques and solutions from one discipline to another;
- Use Information and Communications Technology;
- Manage resources and time;
- Learn effectively for the purpose of continuing professional development.

**Entry Requirements**

Academic Requirement	2.1 degree or higher in a natural sciences subject.
English Language Requirement	<a href="#">Standard requirement</a> IELTS score of 6.5 overall (minimum 6.0 in all elements)

The programme's competency standards document can be found at:  
<http://www.imperial.ac.uk/chemistry/postgraduate/mres-courses/>

**Learning & Teaching Strategy**

Scheduled Learning & Teaching Methods	<ul style="list-style-type: none"> <li>• Lectures</li> <li>• Seminars</li> <li>• Practical work</li> </ul>
Project and Placement Learning Methods	<ul style="list-style-type: none"> <li>• Individual research project</li> </ul>

**Assessment Strategy**

Assessment Methods	<ul style="list-style-type: none"> <li>• Coursework</li> <li>• Written examinations</li> </ul>
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	<ul style="list-style-type: none"> <li>• Project work</li> <li>• Project proposal</li> <li>• Practical</li> <li>• Presentations</li> <li>• Manuscript-style report</li> </ul>				
<b>Academic Feedback Policy</b>					
Feedback will be provided within 2 weeks for small pieces of coursework (journal clubs, poster project) and within 3 weeks for larger assessments (research proposal, bespoke courses). The MRes students will be provided with information on when they can expect the feedback to be provided. If there is any delay, the students will be informed.					
<b>Re-sit Policy</b>					
In line with College policy, students who are unsuccessful in any of their examinations may usually be allowed an opportunity to re-sit at the discretion of the Board of Examiners.  Specific information regarding re-sits for Taught Master's degrees can be found in the relevant Academic Regulations available at: <a href="https://www.imperial.ac.uk/about/governance/academic-governance/regulations/">https://www.imperial.ac.uk/about/governance/academic-governance/regulations/</a>					
<b>Mitigating Circumstances Policy</b>					
Students may be eligible to apply for mitigation if they have suffered from serious and unforeseen circumstances during the course of their studies that have adversely affected their ability to complete an assessment task and/or their performance in a piece of assessment.  The College's Policy on Mitigating Circumstances is available at: <a href="https://www.imperial.ac.uk/about/governance/academic-governance/academic-policy/exams-and-assessment/">https://www.imperial.ac.uk/about/governance/academic-governance/academic-policy/exams-and-assessment/</a>					
<b>Programme Structure</b>					
Full-time	Pre-session	Term One	Term Two	Term Three	Term Four
Core Modules (Taught element)	0	1	1	0	0
Projects (Research element)	0	1	1	1	0
<b>Assessment Dates &amp; Deadlines</b>					
Written Examinations			Spring		
Coursework Assessments			Autumn/Spring		
Project Deadlines			Summer		
Practical Assessments			Autumn/Spring		
<b>Assessment Structure</b>					

## Marking Scheme

### **Pass:**

- The Pass Mark for all **postgraduate** taught programme elements is 50%.
- Students must pass all elements in order to be awarded a degree.

### **Merit:**

- In order to be awarded a result of merit, a candidate must obtain an aggregate mark of 60% or greater.
- Where appropriate, a Board of Examiners may award a result of merit where a candidate has achieved an aggregate mark of 60% or greater across the programme as a whole AND has obtained a mark of 60% or greater in each element with the exception of one element AND has obtained a mark of 50% or greater in this latter element.

### **Distinction:**

- In order to be awarded a result of distinction, a candidate must obtain an aggregate mark of 70% or greater.
- Where appropriate, a Board of Examiners may award a result of distinction where a candidate has achieved an aggregate mark of 70% or greater across the programme as a whole AND has obtained a mark of 70% or greater in each element with the exception of one element AND has obtained a mark of 60% or greater in this latter element.

<b>Module Weightings</b>		
<b>Module</b>		<b>% Module Weighting</b>
Taught Module	Group learning seminar (5%), written exams on lectures (10%), HackEDU (10%) Numbers in brackets represent proportion of the overall programme credit.	25%
Research Module	The Research project is assessed via: Research Proposal (10%), MRes Manuscript (50%), Oral Viva (10%), MRes Conference Presentation (5%). Numbers in brackets represent proportion of the overall programme credit.	75%

Indicative Module List											
Code	Title	Core/ Elective	L&T Hours	Ind. Study Hours	Place- ment Hours	Total Hours	% Written Exam	% Course- work	% Practical	FHEQ Level	ECTS
	Taught Module	CORE	75	325	0	400	40%	40%	20%	7	16
	Research Module	CORE	30	420	1400	1850	0%	100%	0%	7	74

## Supporting Information

The Programme Handbook is available at:

<https://www.imperial.ac.uk/study/pg/chemistry/plant-chemical-biology/>

The Module Handbook is available at:

<https://www.imperial.ac.uk/study/pg/chemistry/plant-chemical-biology/>

The College's entry requirements for postgraduate programmes can be found at:

[www.imperial.ac.uk/study/pg/apply/requirements](http://www.imperial.ac.uk/study/pg/apply/requirements)

The College's Quality & Enhancement Framework is available at:

[www.imperial.ac.uk/registry/proceduresandregulations/qualityassurance](http://www.imperial.ac.uk/registry/proceduresandregulations/qualityassurance)

The College's Academic and Examination Regulations can be found at:

<https://www.imperial.ac.uk/about/governance/academic-governance/regulations>

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<http://www.imperial.ac.uk/admin-services/secretariat/college-governance/charters/charter-and-statutes/>

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<https://www.officeforstudents.org.uk/>