

MRes Drug Discovery and Development: Multidisciplinary Science for Next Generation Therapies

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.

Programme Information

Programme Title	Drug Discovery and Development: Multidisciplinary Science for Next Generation Therapies			
Award(s)	MRes			
Programme Code	F1U11T			
Associateship	Royal College of Science			
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			
Cohort Entry Points	Annually in October			
Relevant QAA Benchmark Statement(s) and/or other external reference points	Master's Degrees in Chemistry			
Total Credits	ECTS:	90	CATS:	180
FHEQ Level	Level 7			
EHEA Level	2 nd cycle			
External Accrator(s)	None			
Specification Details				
Student cohorts covered by specification	2021-22 entry			
Person(s) responsible for the specification	Prof. Ed Tate, Programme Director			

	Prof. Matt Fuchter, Programme Director
Date of introduction of programme	October 2011
Date of programme specification/revision	August 2021
Programme Overview	
<p>This MRes programme is a one-year stand-alone course that will develop your expertise in multidisciplinary drug discovery research. It will also provide a deep understanding of the current global state of drug discovery together with radical insights into future directions from leaders in the field.</p> <p>You will graduate from the course with a solid knowledge of the drug discovery process, from emerging technologies and drug target selection through to clinical trials and regulatory aspects.</p> <p>You will also be challenged to develop your own ideas on how to focus academic and industrial research to meet the pressing challenges of drug discovery.</p> <p>At its conclusion, you are expected to be ideally placed to apply your knowledge in industry or to undertake doctoral studies in multidisciplinary drug discovery.</p> <p>Graduates of this programme can expect to have all the necessary skills and experience to apply cutting edge approaches in either commercial or academic laboratories, the research project in particular equipping them admirably for PhD studies.</p>	
Learning Outcomes	
<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: www.imperial.ac.uk/students/academic-support/graduate-attributes</p>	

The programme aims to:

- Produce postgraduates equipped to pursue careers in drug discovery at the interface between the physical and life sciences, in industry, the public sector and non-governmental organisations;
- Develop the ability to undertake research in multidisciplinary teams at this interface;
- Develop a knowledge of a range of basic and advanced concepts focused around drug discovery;
- Develop research and analytical skills related to biomolecular and drug discovery research;
- Develop oral and written scientific presentation skills;
- Attract the most motivated science and medicine graduates, both from within the UK and from overseas;
- Develop new areas of teaching in response to the advance of scholarship and the needs of vocational training.

Knowledge and Understanding of:

- Core concepts in drug discovery – introduction to drug discovery, the right targets, the right drugs, in the clinic;
- Research techniques, including information retrieval, experimental design, chemical synthesis, modelling, biomolecular techniques, molecular biology, and laboratory safety;
- Detailed knowledge and understanding of the essential facts, concepts, principles and theories relevant to the student's project; management and communication skills, including problem definition, project design, decision processes, teamwork, written and oral reports, scientific publications.

Intellectual Skills - able to:

- Analyse and solve biomolecular problems using an integrated multidisciplinary approach;
- Integrate and evaluate information;
- Formulate and test hypotheses using appropriate experimental design and statistical analysis of data;
- Plan, conduct and write-up a programme of original research.

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 computational tools and packages.

Transferable Skills - able to:

- Communicate effectively through oral presentations, computer processing and presentations, written reports and scientific publications;
- Apply statistical and modelling skills;
- 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;
- Transfer techniques and solutions from one discipline to another;
- Use Information and Communications Technology;
- Manage resources and time;
- Learn independently with open-mindedness and critical enquiry;
- Learn effectively for the purpose of continuing professional development.

Entry Requirements

Academic Requirement	Normally a 2.1 UK Bachelor's Degree with Honours in a relevant subject, particularly in subjects such as Chemistry, Pharmacy, Physics, Biochemistry and Medicine (or a comparable qualification recognised by the College).
Non-academic Requirements	None
English Language Requirement	Standard requirement 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"> • Lectures • Seminars • Journal club • Presentations
Project and Placement Learning Methods	<ul style="list-style-type: none"> • Individual research project
Assessment Strategy	
Assessment Methods	<ul style="list-style-type: none"> • Oral presentations • Case studies • Literature report • Coursework • Project work • Manuscript-style report
Academic Feedback Policy	
<p>Feedback will be provided within 2 weeks for small pieces of coursework (journal club, presentation) and within 3 weeks for larger assessments (literature report, case study). In all cases, 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.</p>	
Re-sit Policy	
<p>The College's Policy on Re-sits is available at: www.imperial.ac.uk/registry/exams/resit</p>	
Mitigating Circumstances Policy	
<p>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.</p> <p>The College's Policy on Mitigating Circumstances is available at: http://www.imperial.ac.uk/student-records-and-data/for-current-students/undergraduate-and-taught-postgraduate/exams-assessments-and-regulations/</p>	
Assessment Dates & Deadlines	
Written Examinations	N/A
Coursework Assessments	Autumn/ Spring Terms
Project Deadlines	Summer Term
Practical Assessments	Continuous

Assessment Structure

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.

Module Weightings		
Module		% Module Weighting
Taught module	Case Study (15%), Journal Club (5%) & Project Proposal Presentation (5%).	25%
Research module	Literature Report (10%), MRes Manuscript and Oral Viva (60%), MRes Conference Presentation (5%).	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 (includes Case Study, Project proposal presentation & Journal Club)	CORE	50	200	0	250	0%	100%	0%	7	10
	Research Module (includes Literature Report, MRes Manuscript and Oral Viva & MRes Conference Presentation)	CORE	0	400	1600	2000	0%	100%	0%	7	80

Supporting Information

The Programme Handbook is available at: <https://www.imperial.ac.uk/study/pg/chemistry/drug-discovery-development/>

The Module Handbook is available at:
<https://www.imperial.ac.uk/study/pg/chemistry/drug-discovery-development/>

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:
<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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