

MRes Molecular Plant and Microbial Sciences

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	Molecular Plant and Microbial Sciences			
Award(s)	MRes			
Programme Code	D8U8			
Awarding Institution	Imperial College London			
Teaching Institution	Imperial College London			
Faculty	Faculty of Natural Sciences			
Department	Department of Life Sciences			
Main Location of Study	South Kensington Campus			
Mode and Period of Study	1 academic year (12 months), full-time			
Cohort Entry Points	Annually in October			
Relevant QAA Benchmark Statement(s) and/or other external reference points	Master's Degree Characteristics			
Total Credits	ECTS:	90	CATS:	180
FHEQ Level	Level 7			
EHEA Level	2 nd cycle			
External Accreditor(s)	None			

Specification Details

Student cohorts covered by specification	2018-19 entry
Person responsible for the specification	Dr Colin Turnbull, Programme Organiser
Date of introduction of programme	2003-04
Date of programme specification/revision	May 2018

Programme Overview

The backbone of the MRes in Molecular Plant and Microbial Sciences is a 12-month period of research starting in the first week of October.

It consists of two research projects performed in research groups focusing on plant genetic engineering, plant development, photosynthesis, molecular microbiology, plant-microbe and -pest interactions, metabolic engineering, transcriptomics, proteomics and bioinformatics.

Career opportunities continue to expand as the potential of molecular sciences related to plants, microbes and biotechnology is realised by employers, research companies and governments. A high proportion of our graduates enter further research leading to a PhD degree.

Some graduates may gain employment in the food industry and agrochemical companies, which are increasingly focused on modern approaches to plant breeding. New developments in biofuels and metabolic engineering research offer future employment opportunities.

Learning Outcomes

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

Knowledge and Understanding:

- At the conclusion of the programme, students should have experienced research encompassing a range of topics and techniques relevant to pursuing a career in molecular plant and/or microbial sciences.
- They should have developed their abilities in experimental design, critical assessment of results and conclusions, written and verbal presentations and the use of relevant software and statistics tools for data analysis and display.

Intellectual Skills:

- Analyse and solve plant and microbial science problems using an integrated multidisciplinary approach.
- Integrate and evaluate information.
- Formulate and test hypotheses using appropriate experimental design and statistical analysis of data where appropriate.
- Plan, conduct and write a programme of original research.
- Critically evaluate scientific publications.

Practical Skills:

- Plan and execute safely a series of experiments.
- Use laboratory and information technology 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 relevant computation tools and packages.

Transferable Skills:

- Communicate effectively through oral presentations, written reports, scientific publications and electronic publishing.

- Devise experimental methodologies for plant science and biotechnology problems.
- Use management skills: decision-making processes, objective criteria, problem definition, project design and evaluation, risk management, teamwork and coordination.
- Integrate and evaluate critically information from various sources.
- Transfer techniques and solutions from one discipline to another.
- Use modern information and communications technologies.
- 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 Biosciences-based subject (or a comparable qualification recognised by the College).
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/media/imperial-college/faculty-of-natural-sciences/department-of-life-sciences/public/postgraduate/masters/Life-Sciences-Competence-standards-PG.pdf>

Learning & Teaching Strategy

Scheduled Learning & Teaching Methods	<ul style="list-style-type: none"> • Research laboratory • Skills training practicals • Formal presentations • Optional lectures • Seminars
E-learning & Blended Learning Methods	<ul style="list-style-type: none"> • Computer based work
Project and Placement Learning Methods	<ul style="list-style-type: none"> • Individual research projects with thesis reports (2 x 5 months)

Assessment Strategy

Assessment Methods	<ul style="list-style-type: none"> • Presentations • Individual research project report • Viva
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Academic Feedback Policy

Research project reports and seminar presentations are marked by the research supervisor and two independent assessors.
 Research lab performance is marked by the research supervisor.
 Internal vivas are conducted and assessed by the two independent examiners.
 1:1 feedback sessions for all students are provided by the course director after each project,

covering performance in report, presentation and viva.
Staff-student meetings are held two to three times a year to communicate general feedback between student representatives and the course directors.

Re-sit Policy

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

Mitigating Circumstances Policy

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: <https://www.imperial.ac.uk/about/governance/academic-governance/academic-policy/exams-and-assessment/>

Assessment Dates & Deadlines

Coursework Assessments

Spring and summer.

Project Deadlines

Spring and summer.

Assessment Structure

Marking Scheme

Pass:

- Achieve a minimum aggregate mark of 50% in each of the following modules: Molecular Plant and Microbial Sciences Research Project 1 and Molecular Plant and Microbial Sciences Research Project 2.

Merit:

- Achieve a minimum aggregate mark of 60% in each of the following modules: Molecular Plant and Microbial Sciences Research Project 1 and Molecular Plant and Microbial Sciences Research Project 2.
- Where appropriate, a Board of Examiners may award a result of merit where a candidate has achieved an aggregate mark of 60 per cent or greater across the programme as a whole AND has obtained a mark of 60 per cent or greater in each project with the exception of one project AND has obtained a mark of 50 per cent or greater in this latter project.

Distinction:

- Achieve a minimum aggregate mark of 70% in each of the following modules: Molecular Plant and Microbial Sciences Research Project 1 and Molecular Plant and Microbial Sciences Research Project 2.
- Where appropriate, a Board of Examiners may award a result of distinction where a

candidate has achieved an aggregate mark of 70 per cent or greater across the programme as a whole AND has obtained a mark of 70 per cent or greater in each project with the exception of one project AND has obtained a mark of 60 per cent or greater in this latter project.

Module Weightings	
Module	% Module Weighting
Research Project 1	50%
Research Project 2	50%

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
	Research Project 1	Core	0	1125	0	1125	0%	100%	0%	7	45
	Research Project 2	Core	0	1125	0	1125	0%	100%	0%	7	45

Supporting Information

The Programme Handbook is available at: <http://www.imperial.ac.uk/life-sciences/postgraduate/masters-courses/mres-in-molecular-plant-and-microbial-sciences/>

The Module Handbook is available at: <http://www.imperial.ac.uk/life-sciences/postgraduate/masters-courses/mres-in-molecular-plant-and-microbial-sciences/>

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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