

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		
Associateship	None		
Awarding Institution	Imperial College London		
Teaching Institution	Imperial College London		
Faculty	Faculty of Natural Sciences		
Department	Department of Life Sciences		
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 Degree Characteristics		
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	2016/17 entry		
Person responsible for the specification	Colin Turnbull		
Date of introduction of programme	2003-04		
Date of programme specification/revision	March 2017		

Description of Programme Contents

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, plant molecular biology, proteomics, plant biochemistry, plant-microbe interactions, transcriptomics 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	2.1 Honours degree in a biosciences-based subject from a UK academic institution or an equivalent overseas qualification.
Non-academic Requirements	None
English Language Requirement	Standard requirement

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

The College's Policy on Re-sits is available at: www.imperial.ac.uk/registry/exams/resit

Mitigating Circumstances Policy

The College's Policy on Mitigating Circumstances is available at: www.imperial.ac.uk/registry/exams

Assessment Dates & Deadlines

Written Examinations	None
Coursework Assessments	Spring and summer.
Project Deadlines	Spring and summer.
Practical Assessments	None

Assessment Structure

Marking Scheme

Pass:

- The Pass Mark 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 a mark of 60% or greater in each element.
- 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 55% or greater in this latter element.

Distinction:

- In order to be awarded a result of distinction, a candidate must obtain a mark of 70% or greater in each element;
- 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 65% or greater in this latter element.

Module Weightings

Module	% Module Weighting
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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		1125		1125	0	100	0	7	45
	Research Project 2	Core		1125		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: <http://www3.imperial.ac.uk/registry/proceduresandregulations/regulations>

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

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