

## Programme Specification (PG)

Awarding body / institution:	Queen Mary University of London
Teaching institution:	Queen Mary University of London / Royal Botanic Gardens, Kew
Name of final award and programme title:	Master of Science (MSc) Plant and Fungal Taxonomy, Diversity and Conservation
Name of interim award(s):	PGCert, PGDip
Duration of study / period of registration:	12 months (FT)
Queen Mary programme code(s):	C1R1
QAA Benchmark Group:	N/A
FHEQ Level of Award:	Level 7
Programme accredited by:	N/A
Date Programme Specification approved:	
Responsible School / Institute:	School of Biological & Behavioural Sciences

Schools / Institutes which will also be involved in teaching part of the programme:

School of Biological & Chemical Sciences

Collaborative institution(s) / organisation(s) involved in delivering the programme:

Royal Botanic Gardens, Kew

### Programme outline

With only a small percentage of the planet's diversity formally described by science, it is more important than ever to train a new generation of taxonomists who will go on to describe, understand and conserve biodiversity. This course delivers vital plant and fungal identification skills in combination with a thorough grounding in molecular systematics, evolutionary biology, and conservation policy, theory and practice. Students will be taught by world-leading experts, internationally recognised for cutting edge research in plant and fungal sciences, applying new technologies to answer fundamental questions about the diversity of plant and fungal life on the planet, how it evolved and how we can best conserve it.

The course comprises six taught modules, including a field trip to Madagascar, and a six month research project, which can be based at Queen Mary University of London or at the Royal Botanic Gardens, Kew.

Programme highlights:

- New cross-disciplinary course delivered by experts in plant and fungal science and conservation.
- The only MSc course combining plant and fungal science using desk, lab and field-based approaches.
- Use of the world-class plant and fungal collections at the Royal Botanic Gardens, Kew.
- A six month individual project exploring questions at the cutting edge of biodiversity research.

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- Innovative teaching and research providing the skills and experience that employers and PhD supervisors need.
- Field trip to Madagascar, where students can put their skills and knowledge to practice.

### Aims of the programme

The aims of the programme are to equip students with the skills to discover, describe, evaluate, explore and conserve plant and fungal diversity, and to enable them to develop their prospects for a career in research, or applied conservation.

Specific aims are:

- To address a skills gap in taxonomy and systematics, highlighted in a recent report by NERC and LWECC
- To provide training in desk, lab and field-based assessment of plant and fungal diversity
- To equip students with the knowledge and skills for independent postgraduate study and a career in scientific research
- To provide a basis for applied science and conservation careers.
- To prepare students for working in multi-disciplinary environments.
- To produce graduates with an insight into biodiversity and conservation from a molecular to landscape level.

### What will you be expected to achieve?

Student who successfully complete the MSc programme should have achieved the following learning outcomes.

#### Academic Content:

A 1	Describe the taxonomy, diversity and global distribution of plant and fungal diversity and understand how this knowledge provides the basis for pure and applied research in ecology, evolution and conservation.
A 2	Demonstrate a detailed knowledge of evolutionary biology theory and a critical awareness of current problems and new insights, informed by the forefront of the academic discipline.
A 3	Identify the roles of plant and fungal science in species and habitat conservation (including assessment of threats), ecosystem service delivery/management, and livelihoods.
A 4	Identify the challenges in global plant and fungal conservation and how UK and international policy addresses these.
A 5	Evaluate the contribution of new technologies and analytical techniques to the advancement of plant and fungal science.

#### Disciplinary Skills - able to:

B 1	Critically evaluate taxonomic and phylogenetic concepts.
B 2	Demonstrate proficiency in herbarium, lab and field-based identification and characterisation of plant diversity.
B 3	Demonstrate proficiency in key statistical and analytical tools in plant and fungal science.
B 4	Critically assess and evaluate methodology and experimental design.

B 5	Conduct independent, data-driven research by utilising a range of approaches.
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Attributes:	
C 1	Communicate relevant concepts and conclusions, both orally and in writing, to specialist and non-specialist audiences.
C 2	Evaluate complex issues both systematically and creatively and make sound judgements in the absence of complete data.
C 3	Be able to apply concepts and knowledge to real-life data and situations.
C 4	Demonstrate a range of personal and professional transferable skills in project design and management, teamworking, essay writing, communication and presentation skills.
C 5	Exercise initiative and personal responsibility.
C 6	Demonstrate self-direction and originality in tackling and solving problems, and act autonomously in planning and implementing tasks at a professional or equivalent level.

### How will you learn?

Traditional lectures are used to impart key concepts and knowledge. These lectures are supported by online materials on QMPlus, including links to relevant resources and further reading. Extensive hands-on practical sessions cement the knowledge from the lectures and allow students to become proficient and confident in the use of appropriate investigative research tools. Individual support from teaching staff is available throughout these practical sessions. Coursework assignments are designed to allow students to further hone their skill through private study and group discussion, with the completed coursework being assessed and detailed feedback returned to the student. Students will also be given the opportunity to learn through discussion groups/tutorials and are welcome to attend the science seminars at Kew and Queen Mary in order to broaden their knowledge. The field trip module enables learning through direct application of knowledge and skills to a real-life scenario.

The individual research projects give students the opportunity to develop their thinking in a particular field, and to apply the knowledge and skills gained in the taught modules to a topical research question. Students will learn through the application and modification of practical and analytical tools to a particular area of investigation and through evaluating the implications of their findings in the context of current knowledge.

Throughout the course, students will learn transferable skills in team working, communication and research while simultaneously improving their technical competence.

In addition to timetabled learning, all students are expected to use the self-directed study time to help them achieve the programme outcomes. This should incorporate preparation for lectures and practicals, extensive reading around the subject, discussion with peers, researching and preparing coursework and attending relevant seminars and meetings where appropriate.

### How will you be assessed?

Continual assessment is used throughout the course, with the specific mode of assessment for each module selected according to the nature of the module content. All modules have two or three pieces of assessed coursework with feedback given in a timely fashion.

The programme will be assessed through a combination of essays, practical identification tests, a computer practical, workshops and presentations. Module 6 will be assessed entirely in Madagascar (with alternative arrangements made for those that are unable to travel) and will involve a conservation assessment of an endemic Madagascan taxon and an identification test.

The research project is assessed on the presentation of the project results in the format of a scientific paper and an end of project oral presentation.

### How is the programme structured?

Please specify the structure of the programme diets for all variants of the programme (e.g. full-time, part-time - if applicable). The description should be sufficiently detailed to fully define the structure of the diet.

The first five modules are intended to impart key knowledge and skills. These will each be taught over three weeks, with an intensive combination of lectures and practicals in the first two weeks, followed by a week of private study in which to complete a substantive piece of assessed work.

These modules are followed by the Field Course, in which the skills and knowledge from modules 1-5 are applied to the challenges of plant identification, vegetation survey and conservation assessment and management in Madagascar. Students will learn a suite of techniques necessary for botanical and mycological fieldwork and conservation assessment.

Finally, each student carries out an individual research project. The aim of this project is to apply the technical and transferable skills gained during the taught modules to a pertinent research question involving the management and/or analysis of biological data.

The MSc culminates in a public symposium at which each student delivers a presentation about what they achieved in their research project.

Academic Year of Study FT - Year 1

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester
Research Frontiers in Biodiversity and Conservation	BIO771P	15	7	Compulsory	1	Semester 1
Fungal Taxonomy and Diversity	BIO743P	15	7	Compulsory	1	Semester 1
Statistics and Data Analysis	BIO773P	15	7	Compulsory	1	Semester 1
Biodiversity Survey & Spatial Analysis	BIO789P	15	7	Compulsory	1	Semester 1
Plant Taxonomy and Diversity	BIO741P	15	7	Compulsory	1	Semester 2
Field Study Skills in a Biodiversity Hot spot	BIO778P	15	7	Compulsory	1	Semester 2
Plant and Fungal Taxonomy, Diversity and Conservation Research Project	BIO709P	90	7	Compulsory	1	Semester 2 or 3

### What are the entry requirements?

Potential students are expected to have a minimum of a second class honours degree in a relevant subject such as biology, biochemistry, medicine, or genetics. Preference will be given to candidates with an upper second class or first class degree. Individuals with relevant professional qualifications or other relevant experience and qualifications will also be considered. English Language proficiency is required at the standard level for PGT S&E entry (IELTS 6.5, TOEFL 92, PTE Academic 62).

## How will the quality of the programme be managed and enhanced? How do we listen to and act on your feedback?

The Staff-Student Liaison Committee provides a formal means of communication and discussion between schools/institutes and its students. The committee consists of student representatives from each year in the school/institute together with appropriate representation from staff within the school/institute. It is designed to respond to the needs of students, as well as act as a forum for discussing programme and module developments. Staff-Student Liaison Committees meet regularly throughout the year.

Each school/institute operates a Learning and Teaching Committee, or equivalent, which advises the School/Institute Director of Taught Programmes on all matters relating to the delivery of taught programmes at school level including monitoring the application of relevant QM policies and reviewing all proposals for module and programme approval and amendment before submission to Taught Programmes Board. Student views are incorporated in the committee's work in a number of ways, such as through student membership, or consideration of student surveys.

All schools/institutes operate an Annual Programme Review of their taught undergraduate and postgraduate provision. APR is a continuous process of reflection and action planning which is owned by those responsible for programme delivery; the main document of reference for this process is the Taught Programmes Action Plan (TPAP) which is the summary of the school/institute's work throughout the year to monitor academic standards and to improve the student experience. Students' views are considered in this process through analysis of the NSS and module evaluations.

## What academic support is available?

The School runs a substantive induction programme specifically for its MSc intake each year.

Module organisers are the first point of academic contact for advice and support during the taught component.

Project supervisors are allocated once project topics have been decided upon.

The Programme Director acts as the coordinator of all programme activities, supported by staff of the SBCS Administrative Office.

If there is requirement for further advice or support, then one of the School's Senior Academic Advisors or the Director of Taught Programmes may be consulted.

## Programme-specific rules and facts

## How inclusive is the programme for all students, including those with disabilities?

Queen Mary has a central Disability and Dyslexia Service (DDS) that offers support for all students with disabilities, specific learning difficulties and mental health issues. The DDS supports all Queen Mary students: full-time, part-time, undergraduate, postgraduate, UK and international at all campuses and all sites.

Students can access advice, guidance and support in the following areas:

- Finding out if you have a specific learning difficulty like dyslexia
- Applying for funding through the Disabled Students' Allowance (DSA)
- Arranging DSA assessments of need
- Special arrangements in examinations
- Accessing loaned equipment (e.g. digital recorders)
- Specialist one-to-one "study skills" tuition
- Ensuring access to course materials in alternative formats (e.g. Braille)

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- Providing educational support workers (e.g. note-takers, readers, library assistants)
- Mentoring support for students with mental health issues and conditions on the autistic spectrum.

### Links with employers, placement opportunities and transferable skills

The programme is delivered jointly by Queen Mary University of London and the Royal Botanic Gardens, Kew, thereby providing a balance between a pure academic environment and a collections-based scientific institution, both with global partners in industry. The Programme Director and module organisers have excellent links with individuals in both academia and industry and these links are augmented by those of other colleagues, both within SBCS, in other parts of the College and throughout RBG Kew.

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## Programme Specification Approval

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**Person completing Programme Specification:**

Dr AR Leitch

**Person responsible for management of programme:**

Dr AR Leitch

**Date Programme Specification produced / amended by School / Institute Learning and Teaching Committee:**

6 Jan 2022

**Date Programme Specification approved by Taught Programmes Board:**