Imperial College London

Programme Information		
Programme Title	**Programme Code**	**HECoS Code**
MRes Biosystematics MRes Living Planet with Ecology, Evolution and Conservation MRes Living Planet with Computational Methods in Ecology and Evolution MRes Living Planet with Ecosystems and Environmental Change	LPRB / LPRB1 LPRC / LPRC1 LPRE / LPRE1 LPEE / LPEE1	For Registry Use Only

Award	Length of Study	Mode of Study	Entry Point(s)	Total Credits	
				ECTS	CATS
MRes	1 Calendar year (12 months)	Full-time	Annually in October	90	180
MRes	2 Calendar year (24 months)	Part-time	Annually in October	90	180
PG Certificate	N/A	N/A	**	30	60

* All students must apply to and join the MRes
** The PG Certificate is an exit award and is not available for entry. The title of this exit award will include the specialism of the course. It may be awarded as exit awards at the discretion of the Board of Examiners.

Ownership			
Awarding Institution	Imperial College London	Faculty	Faculty of Natural Sciences
Teaching Institution	Imperial College London	Department	Life Sciences
Associateship	Diploma of Imperial College	Main Location(s) of Study	Silwood Park Campus Natural History Museum (for option: **MRes Biosystematics**)
External Reference			
Relevant QAA Benchmark Statement(s) and/or other external reference points		N/A	
FHEQ Level		Level 7	
EHEA Level		2nd Cycle	
External Accreditor(s) (if applicable)			
External Accreditor 1:	N/A		
Accreditation received:	N/A	Accreditation renewal:	N/A
Collaborative Provision			

Collaborative partner	Collaboration type	Agreement effective date	Agreement expiry date
Natural History Museum (for option: **MRes Biosystematics**)	Collaborative degree programme agreement	Sept 2017	Sept 2022 (currently in process of being renewed to 2028)

Specification Details	
Programme Lead	Prof. Robert Ewers
Student cohorts covered by specification	2024-25 entry
Date of introduction of programme	October 24
Date of programme specification/revision	February 23

Programme Overview

The MRes Living Planet will equip you to tackle the great environmental challenges facing the world. We do this by providing training on the research skills you will need to develop science-based understanding and interventions.

Our diverse programme has a heavy emphasis on practicals and learning-through-research. Based primarily at Imperial's Silwood Park Campus, an internationally renowned centre of excellence for ecological and evolutionary research, our course covers a very wide range of topics, each taught by leading researchers in that field.

This course will train you to think like a scientist through its research-intensive curriculum. Our training is designed to help you develop personal attributes that are desired by employers, including quantitative methods and data science, problem-solving, project management and data communication skills. All of the skills taught on this course are transferrable, meaning the course will open a wide set of opportunities for a career in science and in conservation and natural resource management. Many alumni use this course as a stepping stone to a PhD, while others have found employment opportunities as research assistants and technicians in academia and with NGOs, as rangers and site managers at government agencies and protected areas, and as science communicators and school teachers.

You will first undertake compulsory training designed to give you the core skills needed to understand, interpret and conduct independent research. This training is conducted in field and computing environments and will introduce you to modern data collection and experimental methods, along with state-of-the-art techniques in data science, geographic information systems (GIS), genomics and bioinformatics, and data interpretation.

You will finish the year working on either one or two individual research projects that account for the majority of your time on this programme. The depth of research experience you will gain during this period is the main difference between this programme and the MSc programme we also offer. You will work with staff to develop your own ideas for an individual research project, which can be conducted on any biodiversity, ecological or environmental topic. You will be encouraged to follow your interests, and you will have opportunities to work with researchers inside and outside of Imperial College London that match your personal career goals. This is a feature appreciated by staff and students alike – an opportunity to develop new collaborations and strengthen existing ones, and make new interdisciplinary science happen.

You will be supported throughout the course by your peers, by research-active academics, Teaching Fellows, and Graduate Teaching Assistants. Our course is nested within the [Georgina Mace Centre for the Living Planet](#) that promotes interdisciplinary research and partnerships, bringing together natural scientists, engineers, mathematicians, medics, economists and social scientists.

Students in **MRes Biosystematics** will study primarily at the Natural History Museum (NHM) in South Kensington, but will also attend lectures and practicals at the Silwood Park campus during the Autumn term. Students will conduct two research projects on topics selected from three main areas including: (a) specimen-based phylogenetics, (b) molecular systematics and genomics, and (c) 'big-data' bioinformatics and biodiversity informatics.

Students in **MRes Living Planet with Ecology, Evolution and Conservation** will conduct a long research project on almost any topic within the remit of ecology, evolution and conservation that can come under the broader area of environmental science. At the beginning of the course, you will have the option to choose between focussing on developing your computational or field skills. Projects will normally involve the collection of new data, and can be developed through the university, with national and international collaborators, with external institutions and companies, or be based on the application of science to practical conservation through working with conservation organisations and research institutes.

Students in **MRes Living Planet with Computational Methods in Ecology and Evolution** will conduct a long research project that applies a heavy programming, modelling or statistical analysis element to the study of a biological topic.

Students in **MRes Living Planet with Ecosystems and Environmental Change** will conduct a long research project on a topic broadly related to issues related to global environmental change. At the beginning of the course you will have the option to choose between focussing on developing your computational or field skills. Potential topics range from curiosity-driven, fundamental research on ecosystem function and biogeochemical cycles to policy-oriented analysis of ecosystem and water resources management.

Students taking the **part-time option** in any of these MRes courses will need to complete the compulsory skills training delivered in Term 1 (October to December) with students enrolled in the full-time option. Work on your independent research project will be flexibly timetabled around your circumstances, and can include part-time work, or working full-time in a series of intensively timetabled windows.

Learning Outcomes

Upon successful completion of this programme, you will be able to:
1. Implement data science techniques to better understand biodiversity, ecology, evolution and conservation, including: critically evaluate and apply appropriate data collection and analysis techniques; interpret, summarise and communicate complex environmental data and data analyses
2. Critique and apply research techniques, including information retrieval; computer-based data mining, laboratory and/or field methods to generate data; experimental design; statistical modelling; laboratory and field safety
3. Demonstrate advanced research skills including the ability to: analyse and solve research problems; integrate and summarise biological knowledge to raise novel questions; logical thinking and problem solving; formulate testable hypotheses and design appropriate observations or experiments to test them; plan and safely execute experiments; analyse experimental results to determine their strength and validity; plan, implement and complete a programme of original research; and critically evaluate research literature and your own findings
4. Apply project management skills to effectively plan and execute research projects including: problem definition; project design; decision making; project evaluation; risk management; teamwork and coordination; and time and resource management
5. Communicate effectively through oral presentation, written reports, and scientific publications

In addition, graduates will be able to:
MRes Biosystematics
- Demonstrate detailed knowledge and understanding of the essential facts, concepts, principles and theories relevant to your chosen area of specialisation

MRes Living Planet with Computational Methods in Ecology and Evolution
- Demonstrate detailed knowledge and understanding of the essential facts, concepts, principles and theories relevant to your chosen area of specialisation

MRes Living Planet with Ecology, Evolution and Conservation
- Demonstrate detailed knowledge and understanding of the essential facts, concepts, principles and theories relevant to your chosen area of specialisation

MRes Living Planet with Ecosystems and Environmental Change
- Demonstrate detailed knowledge and understanding of the essential facts, concepts, principles and theories relevant to your chosen area of specialisation

Exit awards
Students who graduate with a **PG Certificate** will have accomplished learning outcomes 1-2 above, and also be able to:

- Select and apply appropriate statistical methods for analysing ecological, evolutionary and environmental data
- Apply computing research skills and methodology to problems in biodiversity, ecology, evolution and conservation

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

Entry Requirements

Academic Requirement	2:1 Bachelor's degree in a science-based subject
Non-academic Requirements	N/A
English Language Requirement	Higher requirement (PG) Please check for other Accepted English Qualifications
Admissions Test/Interview	N/A

The programme's competency standards documents can be found at: 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 Approach

Learning and Teaching Delivery Methods

Scheduled
You will be taught primarily through lectures, seminars and practicals which will require a mix of individual and group work. Practicals will be supported by graduate teaching assistants and teaching staff. You will take part in scheduled lab meetings and we expect you to attend departmental seminars, which provide research level presentations across a wide range of topics within ecology and evolution.

Field trips and fieldwork
Students in options **MRes Biosystematics** will take part in at least one week of fieldwork held at the Natural History Museum in London. Students in **MRes Living Planet with Ecology Evolution and Conservation** and **MRes Living Planet with Ecosystems and Environmental Change** will have the choice to take part in at least one week of fieldwork in the temperate forest and grasslands at Imperial College London's Silwood Park Campus.

E-learning and blended learning approaches
Many practicals in Term 1 will be computer-based and may include the use of web-based programming interfaces. Some teaching will be delivered using blended e-learning approaches, including the use of online lectures, recorded seminars and flipped teaching.

Independent learning
You will be expected to spend significant amounts of time working independently, outside of face-to-face contact time. This will typically include searching and reading the scientific literature, working on individual and group projects, and working on coursework assignments. We will sometimes use flipped teaching methods, meaning you will need to engage with online lecture materials, seminar recordings and readings in advance of attending timetabled sessions.

Research projects
You will spend 27 weeks of your programme working on either one or two individual research projects, during which you will be embedded in a research environment either within Imperial College London, the Natural History Museum (for **MRes Biosystematics** option) or with external research and academic organisations. This is an extended piece of independent research where you are expected to take the lead in developing the research question and driving the work forward. You will be supported by an academic supervisor, who will be responsible for the day-to-day guidance on your project.

Class sizes
Teaching in Term 1 is shared among all course options and class sizes are typically in the range of 110-130 students for lectures. Practicals are sometimes duplicated to reduce student numbers where that is needed for effective learning support.

Overall Workload
Your overall workload consists of face-to-face sessions and independent learning. While your actual contact hours may vary, the following gives an indication of how much time you will need to allocate to different activities at each level of the programme. At Imperial, each ECTS credit taken equates to an expected total study time of 25 hours. Therefore, the expected total study time is 2250 hours per year.

Students in **MRes** options will typically spend around 10% of your time in lectures and practical's and about 15 % of your time in independent study during the taught part of the course. The remaining 75 % of your time will be spent on independent study on your research project.

Assessment Strategy

Assessment Methods

Summative assessments are all designed to have a formative element, where feedback will help you prepare for future assessments.

Students will have a typical assessment balance of coursework (25 %) and written (75 %).

Coursework might involve assessments of reports, computer scripts and datasets, and may be assessed in the form of written reports or oral presentations. **Practical's** will typically be in the form of a mini-project, requiring you to analyse and present an analysis of data. **Written** work is in the form of a research project, which will typically be assessed through the written report itself and an oral presentation.

Academic Feedback Policy

Coursework will be check-marked and comments by the marker are annotated directly on the papers (typically, electronically). A summary of the feedback and an indicative mark will be given. The papers will be returned to the students as soon as possible and within two weeks of submission.

Research projects are marked by your supervisor and an independent assessor, based on the thesis itself and an oral presentation. Marks for the research project will only be released after final exam board approval. Electronic feedback of these assessments is returned automatically to students after the final examiners meeting.

Staff-student meetings are held termly to communicate general feedback between student representatives and the course directors.

The College's Policy on Academic Feedback and guidance on issuing provisional marks to students is available at:
www.imperial.ac.uk/about/governance/academic-governance/academic-policy/exams-and-assessment/

Re-sit Policy

The College's Policy on Re-sits is available at: www.imperial.ac.uk/about/governance/academic-governance/academic-policy/exams-and-assessment/

There are no written examinations in this course. Students will not be permitted to retake coursework and project assessments.

Mitigating Circumstances Policy

The College's Policy on Mitigating Circumstances is available at:
www.imperial.ac.uk/about/governance/academic-governance/academic-policy/exams-and-assessment/

Additional Programme Costs		
This section should outline any additional costs relevant to this programme which are not included in students' tuition fees.		
Description	Mandatory/Optional	Approximate cost
Laptop computer capable of running a UNIX-based OS (**MRes Living Planet with Computational Methods in Ecology and Evolution**)	Mandatory	Will be loaned by Department if required
Laptop computer (all other courses)	Mandatory	£300

Important notice: The Programme Specifications are the result of a large curriculum and pedagogy reform implemented by the Department and supported by the Learning and Teaching Strategy of Imperial College London. The modules, structure and assessments presented in this Programme Specification are correct at time of publication but might change as a result of student and staff feedback and the introduction of new or innovative approaches to teaching and learning. You will be consulted and notified in a timely manner of any changes to this document.

Programme Structure[1]

MRes Biosystematics

FHEQ Level 7
You will study all compulsory modules. Students that engage in the course part time will study all compulsory modules in Year 1.

Code	Module Title	Core/ Compulsory/ Elective	Group	Term	Credits
LIFE70074	NHM Field Course and Basic Computing	Compulsory	A	Autumn	7.5
LIFE70073	Statistics in R	Compulsory	N/A	Autumn	7.5
LIFE70072	Introduction to Ecological and Evolutionary Data Science	Compulsory	N/A	Autumn	7.5
LIFE70071	Planning Research Projects	Compulsory	N/A	Autumn	7.5
LIFE70070	Biosystematics Research Project 1	Core	N/A	Spring	30
LIFE70069	Biosystematics Research Project 2	Core	N/A	Summer	30
				Credit Total	90

MRes Living Planet with Computational Methods in Ecology and Evolution

FHEQ Level 7
You will study all compulsory modules. Students that engage in the course part time will take all compulsory modules in Year 1.

Code	Module Title	Core/ Compulsory/ Elective	Group	Term	Credits
LIFE70068	Biological Computing Bootcamp	Compulsory	N/A	Autumn	7.5
LIFE70073	Statistics in R	Compulsory	N/A	Autumn	7.5
LIFE70072	Introduction to Ecological and Evolutionary Data Science	Compulsory	N/A	Autumn	7.5
LIFE70071	Planning Research Projects	Compulsory	N/A	Autumn	7.5
LIFE70067	MRes Research Project	Core	N/A	Spring - Summer	60
				Credit Total	90

MRes Living Planet with Ecology, Evolution and Conservation

FHEQ Level 7
You will study all compulsory modules. You must choose one elective from group A. Students that engage in the course part time will take all compulsory modules in Year 1.

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[1] **Core** modules are those which serve a fundamental role within the curriculum, and for which achievement of the credits for that module is essential for the achievement of the target award. Core modules must therefore be taken and passed in order to achieve that named award. **Compulsory** modules are those which are designated as necessary to be taken as part of the programme syllabus. Compulsory modules can be compensated. **Elective** modules are those which are in the same subject area as the field of study and are offered to students in order to offer an element of choice in the curriculum and from which students are able to select. Elective modules can be compensated.

Code	Module Title	Core/ Compulsory/ Elective	Group	Term	Credits
LIFE70066	Silwood Field Course and Basic Computing	Elective	A	Autumn	7.5
LIFE70068	Biological Computing Bootcamp	Elective	A	Autumn	7.5
LIFE70073	Statistics in R	Compulsory	N/A	Autumn	7.5
LIFE70072	Introduction to Ecological and Evolutionary Data Science	Compulsory	N/A	Autumn	7.5
LIFE70071	Planning Research Projects	Compulsory	N/A	Autumn	7.5
LIFE70067	MRes Research Project	Core	N/A	Spring - Summer	60
				Credit Total	90

MRes Living Planet with Ecosystems and Environmental Change

FHEQ Level 7
You will study all compulsory modules. You must choose one elective from group A. Students that engage in the course part time will take all compulsory modules in Year 1.

Code	Module Title	Core/ Compulsory/ Elective	Group	Term	Credits
LIFE70066	Silwood Field Course and Basic Computing	Elective	A	Autumn	7.5
LIFE70068	Biological Computing Bootcamp	Elective	A	Autumn	7.5
LIFE70073	Statistics in R	Compulsory	N/A	Autumn	7.5
LIFE70072	Introduction to Ecological and Evolutionary Data Science	Compulsory	N/A	Autumn	7.5
LIFE70071	Planning Research Projects	Compulsory	N/A	Autumn	7.5
LIFE70067	MRes Research Project	Core	N/A	Spring - Summer	60
				Credit Total	90

Progression and Classification

Award and Classification for Postgraduate Students

Award of a Postgraduate Certificate (PG Cert) [Exit Award]
To qualify for the award of a postgraduate certificate you must have a minimum of 30 credits at Level 7

Award of a Masters Degree (including MRes)
To qualify for the award of a postgraduate degree a student must have:
1. accumulated credit to the value of no fewer than 90 credits at level 7
2. and no more than 15 credits as a Compensated Pass;
3. met any specific requirements for an award as outlined in the approved programme specification for that award.

Classification of Postgraduate Taught Awards
The College sets the class of Degree that may be awarded as follows:
1. Distinction: 70.00% or above
2. Merit: 60.00% or above but less than 70.00%.
3. Pass: 50.00% or above but less than 60.00%.

For a Masters, your classification will be determined through the Programme Overall Weighted Average and the designated dissertation or final major project module meeting the threshold for the relevant classification band.

Your degree algorithm provides an appropriate and reliable summary of your performance against the programme learning outcomes. It reflects the design, delivery, and structure of your programme without unduly over-emphasising particular aspects.

Programme Specific Regulations

N/A

Supporting Information
The Programme Handbook is available from the department.
The Module Handbook is available from the department.
The College's entry requirements for postgraduate programmes can be found at: www.imperial.ac.uk/study/apply/postgraduate-taught/entry-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: www.imperial.ac.uk/about/governance/academic-governance/regulations
Imperial College is an independent corporation whose legal status derives from a Royal Charter granted under Letters Patent in 1907. In 2007 a Supplemental Charter and Statutes was granted by HM Queen Elizabeth II. This Supplemental Charter, which came into force on the date of the College's Centenary, 8th July 2007, established the College as a University with the name and style of "The Imperial College of Science, Technology and Medicine". www.imperial.ac.uk/admin-services/secretariat/college-governance/charters/
Imperial College London is regulated by the Office for Students (OfS) www.officeforstudents.org.uk/advice-and-guidance/the-register/
This document provides a definitive record of the main features of the programme and the learning outcomes that you may reasonably be expected to achieve and demonstrate if you take full advantage of the learning opportunities provided. This programme specification is primarily intended as a reference point for prospective and current students, academic and support staff involved in delivering the programme and enabling student development and achievement, for its assessment by internal and external examiners, and in subsequent monitoring and review.