

MSc Ecology, Evolution and Conservation

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	Ecology, Evolution and Conservation			
Award(s)	MSc			
Programme Code	C1Z8 (1YFT)	C1Z824 (2YPT)	C1Z836 (3YPT)	
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 or 2 or 3 academic years, part-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	2019-20 entry			
Person responsible for the specification	Julia Schroeder, Lecturer			
Date of introduction of programme				
Date of programme specification/revision	November 2019			

Description of Programme Contents

This interdisciplinary course provides broad research training in ecology, evolution and conservation, focusing on fundamental concepts and theory, and their application to evolutionary ecology, conservation and biodiversity science.

Based at Silwood Park Campus, an internationally renowned centre of excellence for ecological research, the taught course covers a range of topics, each taught by a leading researcher in that field. These internationally recognised experts use their own research as model systems to illustrate the fundamental scientific principles that underpin the study topics. You also complete a five-month research project on a topic of your choice.

The MSc course offers a wider range of instruction across a large set of research areas, allowing you to gain a clear insight into your own research interests from among current research topics. The MRes course hits the ground running: the greater focus on independent research allows you to specialise in your existing research interests. Both courses start off with some modules that focus on the quantitative and analytical skills needed to complete a research project, but also are requested by a diverse range of employers.

Both courses are suitable for those interested in a career in evolution, ecology or conservation, or in preparing for a PhD.

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

1. Knowledge and Understanding of:

- a. Basic ecology as it relates to population and community dynamics and ecosystem function;
- b. Ecological and evolutionary models and their application to predict and guide population dynamics;
- c. Evolutionary theory as it relates to the origins and dynamics of diversity;
- d. Methods of evolutionary analysis, especially quantitative and molecular approaches for population studies and phylogenetics;
- e. Research techniques, including information retrieval, experimental design and statistics, modelling, sampling, molecular biology, laboratory and field safety;
- f. Detailed knowledge and understanding of the essential facts, concepts, principles and theories relevant to the student's chosen area of specialisation;
- g. Management and communication skills, including problem definition, project design, decision processes, teamwork, written and oral reports, scientific publications.

2. Skills and other Attributes

Intellectual Skills - able to:

- a. Analyse and solve ecological, evolutionary and conservation problems using an integrated multidisciplinary approach;
- b. Integrate and evaluate information;

- c. Formulate and test hypotheses using appropriate experimental design and statistical analysis of data;
- d. Plan, conduct and write-up a programme of original research.

Practical Skills – able to:

- a. Plan and execute safely a series of experiments;
- b. Use laboratory and field-based methods to generate data;
- c. Devise theoretical models for given problem and implement them in computer simulations;
- d. Analyse data and experimental results and determine their strength and validity;
- e. Prepare technical reports;
- f. Give technical presentations;
- g. Use the scientific literature effectively;
- h. Use computational tools and packages.

Transferable Skills – able to:

- a. Communicate effectively through oral presentations, written reports and scientific publications;
- b. Apply statistical and modelling skills;
- c. Management skills: decision making, problem definition, project design and evaluation, risk management, teamwork and coordination;
- d. Integrate and evaluate information from a variety of sources;
- e. Transfer techniques and solutions from one discipline to another;
- f. Use Information and Communications Technology;
- g. Manage resources and time;
- h. Learn independently with open-mindedness and critical enquiry;
- i. Learn effectively for the purpose of continuing professional development.

Entry Requirements

Academic Requirement	2:1 Honours degree in a science-based subject.
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"> • Lectures • Tutorials • Seminars • Practical classes and field work • Workshops • Case studies • Group work exercises • Formal presentations
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E-learning & Blended Learning Methods	<ul style="list-style-type: none"> • Computer-based work • Online learning material • E-exams
Project and Placement Learning Methods	<ul style="list-style-type: none"> • Field trip to Lundy island • Individual research project can include placements
Assessment Strategy	
Assessment Methods	<ul style="list-style-type: none"> • Exams • Coursework • Projects (including thesis, viva and presentation)
Academic Feedback Policy	
<p>Coursework is double-marked and comments by the markers annotated directly on the papers (electronically for submissions on blackboard). A summary of the feedback (with tickboxes indicating relative attainment on key dimensions) will be completed, and an indicative grade will be given (actual marks will not be communicated to the students). These will then be returned to the students as soon as possible and within two weeks of submission. Generic feedback on exam questions (explaining what contributed good answers, typical features leading to lower marks for each question across the whole class) and indicative grades will be returned following exams. A meeting will be held after the end of the taught component, at which each student will have a one-to-one discussion with the Course Director on progress to date, coursework marks achieved and expectations for the project.</p> <p>Staff-student meetings are held termly to communicate general feedback between student representatives and the course directors. Additional meetings are held to provide general feedback and guidance e.g. on exam performance and project selection.</p> <p>Dissertations are marked by supervisor and 2 independent assessors, who provide feedback electronically that is returned automatically to students after the final examiners meeting.</p>	
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	

Programme Structure					
Full-time	Pre-session	Autumn Term	Spring Term	Summer Term	Summer Vacation
Core Modules	0	10	6	0	0
Elective Modules	0	0	0	0	0
Projects	0	0	0	1	0
Assessment Dates & Deadlines					
Written Examinations		Spring and Summer			
Coursework Assessments		Autumn and Spring			
Project Deadlines		Summer			
Practical Assessments		NA			
Assessment Structure					
Marking Scheme					
<p>Pass</p> <ul style="list-style-type: none"> • The Pass Mark for all postgraduate taught course modules is 50%. • Students must pass all elements in order to be awarded a degree. <p>Merit</p> <ul style="list-style-type: none"> • 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. <p>Distinction</p> <ul style="list-style-type: none"> • 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		
Element (% Weighting)	Module	% Module Weighting
Taught (50%)	Ecology, Evolution and Conservation	6.25%
	Field Ecology Skills	6.25%
	Biological Computing in R	6.25%
	Introduction to R and Statistics	6.25%
	Global Biodiversity Conservation and GIS	6.25%
	Genomics and Bioinformatics	6.25%
	Ecology and global change	6.25%
	Phylogenetic reconstruction	6.25%
	Lundy Island Field trip	6.25%
	Population genetics and ecology	6.25%
	General and generalised Linear Modelling	6.25%
	Advanced Statistics	6.25%
	Paleobiology	6.25%
	Genetic mechanisms for biodiversity	6.25%
	Evolutionary and community ecology	6.25%
Behavioural Ecology	6.25%	
Research (50%)	Research Project	100%

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
	Field Ecology Skills	CORE	30	45	0	75	100%	0%	0%	7	3
	Biological Computing in R	CORE	15.5	72	0	87.5	100%	0%	0%	7	3.5
	Introduction to R and Statistics	CORE	14.5	73.5	0	87.5	100%	0%	0%	7	3.5
	GIS	CORE	14.5	73	0	87.5	100%	0%	0%	7	3.5
	Genomics and Bioinformatics	CORE	22	40.5	0	62.5	100%	0%	0%	7	2.5
	Ecology and global change	CORE	24.5	38	0	62.5	100%	0%	0%	7	2.5
	Phylogenetic reconstruction	CORE	20	42.5	0	62.5	100%	0%	0%	7	2.5
	Lundy Island Field trip	CORE	40	32.5	2.5	75	100%	0%	0%	7	3
	Population genetics and ecology	CORE	21	41.5	0	62.5	100%	0%	0%	7	2.5
	General and generalised Linear Modelling	CORE	27	60.5	0	87.5	100%	0%	0%	7	3.5
	Advanced Statistics	CORE	19.5	68	0	87.5	100%	0%	0%	7	3.5
	Paleobiology	CORE	32	68	0	100	100%	0%	0%	7	4
	Genetic mechanisms for biodiversity	CORE	20	30	0	50	100%	0%	0%	7	2
	Evolutionary and community ecology	CORE	17	45.5	0	62.5	100%	0%	0%	7	2.5

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
	Behavioural Ecology	CORE	22	53	0	75	100%	0%	0%	7	3
	Research Project	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/masters-in-ecology-evolution--conservation-msc-and-mres/>

The Module Handbook is available at: <http://www.imperial.ac.uk/life-sciences/postgraduate/masters-courses/masters-in-ecology-evolution--conservation-msc-and-mres/>

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>

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

Imperial College London is regulated by the Higher Education Funding Council for England (HEFCE) <http://www.hefce.ac.uk/reg/of/>