

Programme Information		
Programme Title	Programme Code	HECoS Code
Epidemiology	For Registry Use Only	For Registry Use Only

Award	Length of Study	Mode of Study	Entry Point(s)	Total Credits	
				ECTS	CATS
MSc	1 Year (12 months)	Full Time	Annually in October	90	180
PG Diploma	1 Year (12 months)	Full-Time	N/A	60	120
PG Certificate	1 Year (12 months)	Full-Time	N/A	30	60

The PG Certificate/PG Diploma are not available for entry. All students must apply to and join the MSc

Ownership			
Awarding Institution	Imperial College London	Faculty	Faculty of Medicine
Teaching Institution	Imperial College London	Department	School of Public Health
Associateship	N/A	Main Location(s) of Study	St Mary's Campus

External Reference	
Relevant QAA Benchmark Statement(s) and/or other external reference points	Master's Degrees in Medicine
FHEQ Level	Level 7 - Masters
EHEA Level	2nd Cycle

External Accreditor(s) (if applicable)	
External Accreditor 1:	N/A

Specification Details	
Programme Lead	Professor Matthew Fisher Professor Marta Blangiardo
Student cohorts covered by specification	2022-23 entry
Date of introduction of programme	October 17
Date of programme specification/revision	July 22

Programme Overview

The MSc in Epidemiology offers a thorough grounding in epidemiological research and the application of statistical and mathematical methods to epidemiological investigation and practice. Students will be given the opportunity to apply research techniques to a variety of challenging epidemiological, public health and biomedical problems.

The programme is an intensive full-time programme requiring active study for a full 12 months.

Students who complete the MSc Epidemiology proceed to careers in academia and as epidemiologists or analysts in industry, healthcare, government, non-governmental and third sector organisations.

Term One

The core focus of term one is to lay the foundations in biostatistics, modelling, research methods and epidemiologic study design and analysis. It will build core knowledge on methods in epidemiology and the application of these in research. The programme comprises four **compulsory modules** in term one.

Term Two

The core focus of term two is to develop more specialised skills and interests, with the development of knowledge on advanced methods and their application in epidemiological research.

In term two, students build upon the knowledge gained in term one through five or six optional/elective modules. Optional/elective modules for this MSc are carefully designed and reviewed to ensure they cover a range of topics and advances in epidemiological research and allow a certain degree of specialism, whilst ensuring that students gain skills across a broad range of topics related to infectious and chronic disease epidemiology. The **optional/elective modules** are subject to change each year.

Term Three

From approximately May until September (4 months), a supervised research project will be carried out; this is a **core module** on the MSc Epidemiology.

The titles of the research projects are offered by prospective supervisors each year and will be made available before the start of term two for students to select from. Students are also encouraged to propose their own research projects, subject to internal academic approval, the availability of appropriate supervision and ethics approval.

Example and indicative projects from previous years include:

- Predicting the public health impact of pyrethroid resistance for malaria control
- The impact of COVID-19 control-measures on the transmission of childhood respiratory infections in Western Australia
- Investigating the spatiotemporal association between climate and West Nile Virus
- Origins of data amongst mathematical models of tuberculosis
- Infectious disease risk assessment under a changing climate: phenological environmental suitability modelling for invertebrate disease vectors
- Systematic review and meta-analysis of circulating vitamin D in critically ill patients
- Projecting *Onchocerca volvulus* infection trends and times to onchocerciasis elimination using the EPIONCHO-IBM transmission model
- Estimating heterogeneity in onward SARS-CoV-2 transmission and its relation to epidemic severity

On completion of the project, a written dissertation will be produced and submitted in late August, followed by an oral viva in September with an internal and external examiner.

Students are expected to attend ALL timetabled sessions and any additional practical classes, tutorials and group-work meetings. The attendance requirement is full-time i.e. usual working hours from Monday to Friday for the taught components and for the research project.

Learning Outcomes

By the end of the programme, students should be able to:

1. Develop a synoptic understanding of the big issues in chronic and infectious disease epidemiology
2. Systematically search, engage with, and critically appraise relevant literature
3. Formulate clear research questions, aims and objectives, and to propose theoretically and technically appropriate studies to address them
4. Design, analyse, interpret, and critique epidemiological and biomedical research
5. Apply essential principles of modern biostatistical methods to data analysis and interpretation of research findings
6. Identify key concepts in the ecology and evolutionary biology of infectious disease. To then use these concepts to propose solutions to mitigate and solve real world, contemporary problems
7. Employ basic mathematical and computational skills used in the analysis of infectious disease pathogenesis, transmission, and control
8. Apply principles of modelling to address real world and contemporary health problems
9. Communicate research proposals, activities, and findings to both scientific and lay audiences, and to engage in high quality scientific dialogue with peers
10. Argue the importance of, and adhere to, ethical standards in research and practice
11. Work effectively in interdisciplinary teams to develop innovative solutions to epidemiological, biomedical and public health problems

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 Honours degree in mathematics or statistics, medicine (human and veterinary) or biological sciences. For further information on entry requirements, please go to www.imperial.ac.uk/study/pg/apply/requirements/pgacademic
Non-academic Requirements	None
English Language Requirement	Higher requirement (PG) Please check for other Accepted English Qualifications
Admissions Test/Interview	Applicants may be invited to a post-application interview to clarify contents of submitted application documents

The programme's competency standards documents can be found at: <http://www.imperial.ac.uk/medicine/study/postgraduate/masters-programmes/msc-epidemiology/>

Learning & Teaching Approach

Learning and Teaching Delivery Methods

Teaching on this programme is delivered through in-person and online lectures, asynchronous formative quizzes, reading and pre-recorded materials, discussion forums, computer-based practicals, small groups tutorials, and guided independent study. Some modules include seminars, workshops, group work and drop-in office hours. For example, students may be asked to read and watch material alone before class, then attend a synchronous lecture followed by time for questions, before splitting into small groups of about 4-8 participants for practicals.

Following taught modules in terms one and two, students conduct a tractable independent research project. This is supported by academic supervisors and the course team through the provision of optional summer skills workshops.

Overall Workload

Your overall workload consists of face-to-face sessions and independent learning. While your actual contact hours may vary according to the optional modules you choose to study, 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 on the MSc Epidemiology is 2,250 hours in total. In terms one and two, you should expect to spend about 25-30% of your study time in taught sessions and supervised practicals or groupwork, and the remaining 70-75% on independent study.

In term three, except for supervision meetings and optional summer skills workshops, expect to spend all your time working independently on your research project.

Assessment Strategy

Assessment Methods

Summative assessments are delivered through a combination of

- Timed written exams
- Coursework, such as essays, reports and paper or case study reviews
- Mini research projects
- Individual and group presentations
- Video blogs

The balance of assessments across the year is approximately as follows.

	Term 1	Term 2*	Term 3
Coursework	60%	50%	70%
Practical or presentation	10%	25%	30%
Timed written exam	30%	25%	0%

*This depends on selected modules – estimate based on modules taken by most students in previous years.

Academic Feedback Policy

The programme complies with the College policy and will provide students with feedback within a timely and appropriate turnaround time. Students will be provided with a bespoke assessment schedule confirming all submission deadlines, marking periods and feedback points to manage their expectations and ensure feedback can inform the next assessment, where appropriate. In line with other taught post-graduate programmes in the School of Public Health, considered in light of assessment load and to ensure students are provided with comprehensive feedback, the turn-around time for compulsory modules is five weeks, while for optional modules this is four weeks.

Feedback will take different forms depending on the type of assessment:

- To support preparation for summative assessments, students will receive feedback for formative coursework either individually or in group sessions
- Formative feedback for exams is given in revision sessions and group discussions
- For summative written reports, students will be given written feedback, and given the opportunity to discuss their provisional marks
- For summative examinations, students will receive a mark, and may approach tutors for additional feedback, but may not review their submitted examination paper
- For oral presentations, comments and immediate feedback will be given during some presentations, and written feedback will be provided once provisional marks are published
- Students will be given written feedback for their final written research project report and receive preliminary oral feedback following the oral presentation, as well as written feedback after the event.

Further exchanges will also take place throughout the programme through:

- Questions during or after the lectures
- Interaction with tutors during practicals and one-to-one sessions
- Support and academic advice provided by the Course Organisers

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/student-records-and-data/for-current-students/undergraduate-and-taught-postgraduate/exams-assessments-and-regulations/
Mitigating Circumstances Policy
The College's Policy on Mitigating Circumstances is available at: www.imperial.ac.uk/student-records-and-data/for-current-students/undergraduate-and-taught-postgraduate/exams-assessments-and-regulations/

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
Computational machine	Mandatory	Not provided

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				
Year 1 - FHEQ Level 7 Students study all core and compulsory modules. Students choose either five or six elective modules, totalling 30 Credits.				
Code	Module Title	Core/ Elective/ Compulsory	Term	Credits
TBC	Introduction to Statistical Thinking and Data Analysis	Compulsory	1	7.5
PUBH70026	Principles and Methods of Epidemiology	Compulsory	1	7.5
PUBH70059	Research Methods	Compulsory	1	7.5
PUBH70060	Introduction to Infectious Disease Modelling	Compulsory	1	7.5
PUBH70061	Bayesian Modelling for Spatial and Spatiotemporal Data	Elective	2	10
PUBH70062	Further Methods in Infectious Disease Modelling	Elective	2	5
PUBH70051	Outbreaks	Elective	2	5
PUBH70063	Advanced Regression	Elective	2	5
PUBH70038	Emerging and Infectious Neglected Tropical Diseases	Elective	2	5
PUBH70064	Genetics of Infectious Disease Pathogens	Elective	2	5
PUBH70039	Environmental Epidemiology	Elective	2	5
TBC	Nutritional Epidemiology	Elective	2	5
PUBH70065	Molecular and Genetic Epidemiology	Elective	2	5
TBC	Research Project	Core	3	30
Credit Total				90

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.

Award and Classification for Postgraduate Students

Award of a Postgraduate Certificate (PG Cert)

To qualify for the award of a postgraduate certificate a student must have a minimum of 30 credits at Level 7 (this may include a maximum of 10 credits from Level 6 where this is approved as part of the award).

Award of a Postgraduate Diploma (PG Dip)

To qualify for the award of a postgraduate diploma a student must have passed modules to the value of no fewer than 60 credits at Level 7 (this may include a maximum of 15 credits from Level 6 where this is approved as part of the award).

1. and no more than 10 credits as a Compensated Pass;

Award of a Postgraduate 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 or above of which no more than 15 credits may be from credit level 6;
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: The student has achieved an overall weighted average of 70.00% or above across the programme.
2. Merit: The student has achieved an overall weighted average of above 60.00% but less than 70.00%.
3. Pass: The student has achieved an overall weighted average of 50.00% but less than 60.00%.
 - a. For a Masters, students must normally achieve a distinction (70.00%) mark in the dissertation or designated final major project (as designated in the programme specification) in order to be awarded a distinction.
 - b. For a Masters, students must normally achieve a minimum of a merit (60.00%) mark in the dissertation or designated final major project (as designated in the programme specification) in order to be awarded a merit
 - c. Modules taken at level 6 as part of the programme specification for a named postgraduate award will contribute to the determination of pass, merit or distinction for any taught postgraduate award and are included in the calculation of the overall weighted average.

Programme Specific Regulations

N/A

Supporting Information

The Programme Handbook is available at: **TBA**

The Module Handbook is available at: **TBA**

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:
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 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 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.

Modifications

Description	Approved	Date	Paper Reference
Curriculum Review	Programmes Committee	29/03/22	PC.2021.85