UNIVERSITY OF LIVERPOOL

MSc

Emerging Infections and Pandemics

Study mode	Duration	
Full-time	12 months	Apply by: **11 September 2026**
Part-time	24 months	Starts on: **28 September 2026**

About this course

The COVID-19 pandemic highlighted the major challenges that can occur when attempting to control the spread of infectious disease in a highly interconnected world. Outbreaks of disease have potential to cause far-reaching consequences across society, impacting upon on public health, the economy, social interaction and changing the way we work. Society must anticipate future large-scale outbreaks of infectious diseases. This requires a workforce that is well-equipped with the range of skills required to respond to future such outbreaks and pandemics.

Introduction

What does this course offer?

While studying the MSc Emerging Infections and Pandemics, you will be provided with a breadth of interdisciplinary expertise and practical role-play in the epidemiology, immunology, control and management of epidemics and pandemics in a One Health (integrated medical and veterinary) context. You will experience sessions led by leading experts in their respective fields.

This MSc takes you from the laboratory bench into the highly topical field of modelling, showing you how models and data can be used to both understand how epidemics spread and contribute to outbreak control. You will be introduced to the different phases, complexities, and cross-sectoral workings of outbreaks at global, national, and local levels. Through this, you will come to understand the critical role of policy, communication and the media in the success (or otherwise) of translating scientific knowledge into effective disease control.

Our MSc programme will develop your skills in communications and statistics beyond those gained at undergraduate level. You will be trained in how to critically evaluate and synthesise aspects of infectious diseases, with practical applications in public health and outbreak control.

The programme would suit intercalating medics and vets and is available for part-time study.

Why Liverpool?

Liverpool has a long-established, distinguished track record in the understanding and management of infectious disease. Dr. William Henry Duncan, a Liverpudlian, was appointed ~200 years ago as the first ever Medical Officer of Health and was a pioneer in uncovering the link between poor sanitation and disease. Dr. Duncan's work laid the foundations for modern public health. Moving to the present day, work conducted in The University of Liverpool and Liverpool City Region continues to have an international impact on the management of infectious disease outbreaks and epidemics. University of Liverpool research into viruses such as Ebola and Zika has contributed to the management of outbreaks of associated disease; and a clinical trial of rotavirus vaccine in Malawi informed a WHO recommendation in 2009 that children in low income, high mortality countries should receive the vaccine.

Liverpool City Region also played a critical role in the Covid-19 pandemic by rolling-out the first mass asymptomatic testing programme worldwide and was selected as a key location of the Events Research Programme, which determined that large social gatherings could be held safely using testing or confirmation of vaccination status. The University is a major partner in the city's Pandemic Institute and our academics have advised Government policy continue to work on new treatments and improved understanding of Long Covid.

Who is this course for?

This master's degree is for graduates from a biology or biomedical sciences background who want to develop understanding and skills in statistical analyses, infection biology and disease surveillance, with the interdisciplinary expertise required to prevent, monitor and control medical and veterinary infectious disease outbreaks.

What you'll learn

- Knowledge, skills, and techniques for investigating and controlling global human and animal disease outbreaks.
- Core skills in critically evaluating issues associated with emerging infectious disease and pandemics.
- Understanding of models and data, how statistical and mathematical models differ, and what each can bring to the understanding of epidemics and pandemics.
- Statistical techniques in the design of experiments in biological research.
- Critical evaluation of key concepts, technologies and multifactorial considerations circumscribing diagnostics, therapeutics and vaccines.

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Course content

Discover what you'll learn, what you'll study, and how you'll be taught and assessed.

Semester one

Modules

Compulsory modules	Credits
INTRODUCTION TO IVES RESEARCH (IVES701)	30
BIOLOGICAL DATA SKILLS (LIFE707)	15
EMERGING INFECTIONS AND PANDEMICS (IVES711)	15
INTRODUCTION TO EPIDEMIOLOGY (IVES714)	15

Programme details and modules listed are illustrative only and subject to change.

Semester two

Modules

Compulsory modules	Credits
INTRODUCTION TO IVES RESEARCH (IVES701)	30
GLOBAL OUTBREAK SURVEILLANCE AND CONTROL (IVES717)	15

Compulsory modules	Credits
DIAGNOSTICS, THERAPEUTICS AND VACCINES (IVES722)	15
UNDERSTANDING MODELS AND DATA (IVES724)	15

Programme details and modules listed are illustrative only and subject to change.

Final project

Modules

Compulsory modules	Credits
IVES RESEARCH PROJECT (IVES702)	60

Programme details and modules listed are illustrative only and subject to change.

Teaching and assessment

How you'll learn

You will experience a range of teaching and learning methods, including lectures, seminars, workshops, group discussion and e-learning.

Programme modules encourage individual and group work where you will tackle problems by developing ideas and hypotheses, design learning strategies to solve problems, and then analyse and interpret your findings.

Course material is available 24-hours a day on Canvas, our online learning platform. One-to-one meetings with your research supervisor will allow you to discuss science, develop your critical thinking and creativity through an ongoing feedback model.

Your master research project provides a full academic research experience, including the planning, execution and communication of scientific research.

How you're assessed

Assessment of knowledge and understanding, practical skills and transferrable skills is through a blended mix of coursework that may include practical and project reports, essays, completion of workbooks, talks, data handling sessions and posters.

All modules will provide you with feedback on your learning progress and allow for adjustment of your learning. Electronic resources available on the University virtual learning environment support learning and teaching.

Liverpool Hallmarks

We have a distinctive approach to education, the Liverpool Curriculum Framework, which focuses on research-connected teaching, active learning, and authentic assessment to ensure our students graduate as digitally fluent and confident global citizens.

The Liverpool Curriculum framework sets out our distinctive approach to education. Our teaching staff support our students to develop academic knowledge, skills, and understanding alongside our **graduate attributes**:

- Digital fluency
- Confidence
- Global citizenship

Our curriculum is characterised by the three **Liverpool Hallmarks**:

- Research-connected teaching
- Active learning
- Authentic assessment

All this is underpinned by our core value of **inclusivity** and commitment to providing a curriculum that is accessible to all students.

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Careers and employability

Graduates in this subject area are highly sought-after. You will graduate from the course equipped for a range of career opportunities in outbreak management and pandemic response – and future disease control and public health implementation – across the medical and veterinary sectors in academia and industry, as well as in government departments, international charities and non-governmental organisations.

There is high demand for individuals with interdisciplinary skills in modelling, statistics, epidemiology and immunology, and a good understanding of public health policy is expected among STEM graduates.

Commercial sectors such as the pharmaceutical, biotechnology and agriculture industries are also employers of our graduates, especially with the increase of next-generation sequencing and the corresponding data analysis that is required.

The MSc Emerging Infections and Pandemics prepares you for a diversity of job opportunities in the public and private sector. Potential career pathways include, but are not limited to, the roles of:

- PhD training in academia and/or industry
- Teaching in secondary/higher education
- Scientist employed by public sector agencies, NGOs or charities
- Scientist employed in private sector organisations with a focus on infection control, therapeutics and vaccines.

Career support from day one to graduation and beyond

Career planning

From education to employment

Networking events

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Fees and funding

Your tuition fees, funding your studies, and other costs to consider.

Tuition fees

UK fees (applies to Channel Islands, Isle of Man and Republic of Ireland)

Full-time place, per year - £14,000
Part-time place, per year - £7,000

International fees

Full-time place, per year - £32,000
Part-time place, per year - £16,000

Tuition fees are for the academic year 2026/27.

Tuition fees cover the cost of your teaching and assessment, operating facilities such as libraries, IT equipment, and access to academic and personal support.

- You can pay your tuition fees in instalments.
- All or part of your tuition fees can be funded by external sponsorship.
- International applicants who accept an offer of a place will need to pay a tuition fee deposit.

If you're a UK national, or have settled status in the UK, you may be eligible to apply for a Postgraduate Loan worth up to £12,167 to help with course fees and living costs. **Learn more about paying for your studies**.

Additional costs

We understand that budgeting for your time at university is important, and we want to make sure you understand any course-related costs that are not covered by your tuition fee. This could include buying a laptop, books, or stationery.

Find out more about the additional study costs that may apply to this course.

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Entry requirements

The qualifications and exam results you'll need to apply for this course.

Postgraduate entry requirements

We accept a 2:2 honours degree from a UK university, or an equivalent academic qualification from a similar non-UK institution. This degree should be in a Biological Sciences subject or equivalent. Candidates must have a scientific background acceptable to the Programme Director.

International qualifications

Select your country or region to view specific entry requirements.

If you hold a bachelor's degree or equivalent, but don't meet our entry requirements, a Pre-Master's can help you gain a place. This specialist preparation course for postgraduate study is offered on campus at the **University of Liverpool International College**, in partnership with Kaplan International Pathways. Although there's no direct Pre-Master's route to this MSc, completing a Pre-Master's pathway can guarantee you a place on many other postgraduate courses at The University of Liverpool.

English language requirements

You'll need to demonstrate competence in the use of English language, unless you're from a majority English speaking country.

We accept a variety of international language tests and country-specific qualifications.

International applicants who do not meet the minimum required standard of English language can complete one of our Pre-Sessional English courses to achieve the required level.

IELTS

6.5 overall, with no component below 6.0

TOEFL iBT

If you took a TOEFL test on or before 20 January 2026, you'll need 88 overall, with minimum scores of listening 19, writing 19, reading 19 and speaking 20. If you took a TOEFL test from 21 January 2026 onwards, when a new scoring system was introduced, you'll need 4.5 overall, with 4 or above in all components. TOEFL Home Edition not accepted.

Duolingo English Test

125 overall, with writing not less than 125, speaking and reading not less than 115, and listening not below 110. For academic year 2025/26 only, we will also accept the production, literacy, comprehension and conversation score set: 120 overall, with no component below 105.

Pearson PTE Academic

61 overall, with no component below 59

LanguageCert Academic

70 overall, with no skill below 65

PSI Skills for English

B2 Pass with Merit in all bands

INDIA Standard XII

National Curriculum (CBSE/ISC) - 75% and above in English. Accepted State Boards - 80% and above in English.

WAEC

C6 or above

Pre-sessional English

Do you need to complete a Pre-sessional English course to meet the English language requirements for this course?

The length of Pre-sessional English course you'll need to take depends on your current level of English language ability.

Pre-sessional English in detail

If you don't meet our English language requirements, we can use your most recent IELTS score, or the equivalent score in selected other English language tests, to determine the length of Pre-sessional English course you require.

Use the table below to check the course length you're likely to require for your current English language ability and see whether the course is available on campus or online.

Your most recent IELTS score	Pre-sessional English course length	On campus or online
6.0 overall, with writing at 6.0 and no component below 5.5	6 weeks	On campus or online
5.5 overall, with writing at 5.5 and no component below 5.0	10 weeks	On campus or online
5.5 overall, with no more than one component at 5.0	12 weeks	Online
5.5 overall, with no component below 5.0	20 weeks	On campus
5.0 overall, with no more than one component at 4.5	30 weeks	On campus
4.5 overall, with no more than one component at 4.0	40 weeks	On campus

If you've completed an alternative English language test to IELTS, we may be able to use this to assess your English language ability and determine the Pre-sessional English course length you require.

Please see our guide to Pre-sessional English entry requirements for IELTS 6.5 overall, with no component below 6.0, for further details.

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