MODULE SPECIFICATION

Academic Year	2026-27
Module Code	EPM301
Module Title	Epidemiology of Infectious Diseases
Module Organiser(s)	Katherine Horton, Paul Milligan, Ruoran Li
Contact	For students studying University of London Awards (initial registration 2025/2026 and prior years: Enquiries may be made via their Student Advice Centre at: Student Advice Centre. For students studying LSHTM awards (registration in 2026/2027 and onwards): Enquiries should be emailed to: EPsupport@lshtm.ac.uk
Faculty	Faculty of Epidemiology and Population Health
FHEQ Level	Level 7
Credit Value	**CATS** 15 **ECTS** 7.5
Mode of Delivery	Distance Learning
Mode of Study	Directed self-study, through online materials via the Virtual Learning Environment
Language of Study	English
Pre-Requisites	**Epidemiology students** must have passed EPM101 *Fundamentals of Epidemiology* and EPM102 *Statistics for Epidemiology*, and should have studied EPM103 *Practical Epidemiology* and EPM105 *Writing and Reviewing Epidemiological Papers* prior to studying this module. **Clinical Trials students** must ensure that they have studied CTM207 *Design and Analysis of Epidemiological Studies or* EPM101 *Fundamentals of Epidemiology* before studying this module or must obtain Programme Director approval before registration. **Students studying this module as an individual module** must have basic epidemiological knowledge and skills equivalent to EPM101 *Fundamentals of Epidemiology* and EPM102 *Statistics for Epidemiology*. **The material is at an advanced level and includes some interpretation of mathematical formulae.**

	Those wishing to study this module must also be able to access the internet at least 3 times per week throughout the assessed outbreak exercise. This runs on two occasions, for 7 weeks, usually between November and December, and January to February/March (exact dates confirmed early in the academic year). 6 weeks are allocated to the group work, and one week for the individual component.
Accreditation by Professional Statutory and Regulatory Body	Not currently accredited by any other body.
Module Cap (Maximum number of students)	There is no cap on the number of students who can register for this distance learning module.
Target Audience	This module is intended for students interested in the epidemiology and control of infectious diseases in low, middle income or high income countries.
Module Description	Infectious diseases continue to dominate lists of global public health threats, they remain the leading cause of mortality in low income countries, and they can cause sudden widespread epidemics in any setting. Understanding the transmission of infections and the principles underlying their effective control is increasingly important for global public health. This module on infectious disease epidemiology takes a quantitative, methodological focus, aiming to apply epidemiological principles and methods specifically to the study of infectious diseases, including how to determine whether diseases have an infectious cause; how to measure transmissibility of infections and understand how these measures are used; how to conduct outbreak investigations; and how to measure vaccine efficacy and understand the impact of vaccines. Examples of a wide range of infectious diseases are covered, including COVID-19, HIV, TB and Malaria.

Duration	Students may start their studies at any time from receipt of study materials (made available in September, or upon registration). Students are advised, however, to work through the compulsory core study material by the end of March (although assessment submission deadlines which are earlier than this, i.e. the outbreak exercise AA, must be observed). To allow time for students to register for specific dates to carry out the outbreak exercise, module registration after 30 September is not normally allowed. If you are given permission to register for the module in October you should note that introductory messages, and some online activities (for example discussion forums and/or real-time welcome sessions) may have already taken place before you get access to the Virtual Learning Environment (Moodle). All such messages and recordings (where applicable) will be available to access throughout the study year.
Last Revised (e.g. year changes approved)	March 2025

For students studying UoL awards (initial registration in 2025/2026 and prior years)

Programme(s) This module is linked to the following programme(s)	**Status**
PGCert/PGDip/MSc Epidemiology (Distance Learning - University of London)	Elective

For students studying LSHTM awards (registration in 2026/2027 and onwards)

Programme(s) This module is linked to the following programme(s)	**Status**
PGDip Epidemiology (Distance Learning)	Elective
MSc Epidemiology (Distance Learning)	Elective

Module Aim and Intended Learning Outcomes

Overall aim of the module
The overall module aim is to: • provide students with in-depth knowledge of important concepts in the epidemiology of infectious diseases, and the skills to apply these concepts in practice.

Module Intended Learning Outcomes
Upon successful completion of the module a student will be able to: 1. Explain key concepts, terms and epidemiological measures used to describe the frequency, distribution and transmissibility of infectious diseases, and how these measures are estimated in practice. 2. Design, conduct, analyse, interpret and report an outbreak investigation. 3. Explain the principles underlying simple mathematical models of infectious diseases, and the application of these models to interpretation of epidemiological data. 4. Explain how vaccine effectiveness is measured, and factors influencing the effectiveness of different vaccination strategies. 5. Interpret and evaluate surveillance data on infectious diseases. 6. Explain key features of the epidemiology and control of infectious diseases of global importance.

Indicative Syllabus

Session Content
The module comprises the following sections: • Introduction • Is the disease infectious? • Measuring transmissibility • Infectious disease surveillance • Investigating an outbreak • Outbreak exercise (assessed assignment), conducted through the Moodle VLE • Introduction to modelling infectious diseases • Vaccine evaluation • Epidemiology of infectious diseases of global importance These sessions are expected to be followed by two *optional* sessions (these are not assessed): • Infectious disease modelling (additional material) • Introduction to molecular epidemiology of infectious diseases

Teaching and Learning

Notional Learning Hours

Type of Learning Time	Number of Hours	Expressed as Percentage (%)
Directed self-study	70	47
Self-directed learning	30	20
Assessment, review and revision	50	33
Total	**150**	**100**

Teaching and Learning Strategy
Learning is self-directed against a detailed set of learning objectives using the materials provided. The key learning methods are: • Reading and reflecting on CAL (computer-assisted learning) materials and recorded lectures, which introduce, explain and apply the principles and methods covered in the module. • Reading and reflecting on provided materials which support the learning in the CAL sessions. This will include making use of the LSHTM online library resources. • Participating in a real-time group exercise. This is a large proportion of the study time and is spent on an outbreak investigation exercise leading to the assessed assignment report. During this time, students work with a small group of fellow students over a six week period using an assigned discussion group on the web-based discussion forum. An additional week, following the group work, will be spent on preparing an individual component of the outbreak investigation. • Accessing academic support which is available from the module tutors through the web-based discussion forums and occasional online webinars in which students are encouraged to participate.

Assessment

Assessment Strategy
Formal assessment of this module is based on three components: 1. A group report of the outbreak investigation, submitted after the 6-week outbreak exercise AA (written by the group, one grade awarded for the group) [30%], 2. An individually-written component of the outbreak investigation report (individually assessed) [10%]. 3. Structured Questions Assessed Assignment (AA, individually assessed) [60% of the total for the module]

Assessment Strategy
If a student fails the module overall, they are allowed one further attempt at the failed element(s).

Summative Assessment

Assessment Type	**Assessment Length (i.e. Word Count, Length of presentation in minutes)**	**Weighting** (%)	**Intended Module Learning Outcomes Tested**
Outbreak Exercise: Group Report Individual Component	 1400 words (not including tables/figures) 300 words	 30 10	 1, 2 1, 2
Structured Questions Individual Assessed Assignment:	Includes short answer questions which can be answered well in less than 200 words, and one or two longer answer questions which will specify a word limit, typically of about 800 words	60	1, 3, 4, 5

Resitting assessment
Resits will accord with Chapter 8b of the LSHTM Academic Manual.

Assessment submission deadlines
The Outbreak Exercise Group Assessed Assignment must be submitted no later than 6 weeks following the completion of the outbreak exercise. The Outbreak Exercise Individual Component must be submitted no later than 1 week following the submission of the outbreak exercise group report. The Structured Questions Assessed Assignment must be submitted no later than 12 May. All AAs can only be submitted once and must be submitted via the online Assignment Management System.

Resources

Indicative reading list

Beral V. Cancer of the cervix: a sexually transmitted infection? The Lancet. 1974;303(7865):1037-40.

Borchert M, Mutyaba I, Van Kerkhove M, Lutwama J, Luwaga H, Bisoborwa G, et al. Ebola haemorrhagic fever outbreak in Masindi District, Uganda: outbreak description and lessons learned. BMC Infectious Diseases. 2011;11(1):357.

Dixon M, Taylor M, Dee J, Hakim A, Cantey P, Lim T et al, Contact Tracing Activities during the Ebola Virus Disease Epidemic in Kindia and Faranah, Guinea, 2014. Emerging Infectious Diseases. 2015; 21(11)

Anderson, RM and May, RM *Infectious Diseases of Humans: Dynamics and control*. Oxford University Press 1992.

https://www.unaids.org/en/resources/documents/2019/2019-UNAIDS-data

Other resources

The Moodle Virtual Learning Environment (VLE) contains the key materials and resources for EPM301 as follows:

- Interactive study material, referred to as Computer Assisted Learning (CAL), which is the key learning material for the module. The CAL sessions are also available to download.
- Recorded lectures
- Readings (via the LSHTM online library)
- Discussion forums
- Assignment: Outbreak Exercise
- Past examination papers and examiner reports.

The following resources are also provided:

- Statistical software will be provided (if not already provided for core modules)

Moodle can be accessed from the first week of October, after module registration.

Students who are taking this as an individual module or as part of the MSc/PG Diploma Clinical Trials programme will also have online access to the EPM1 computer-based sessions (this access will exclude tutor support and associated readings / textbooks).

Teaching for Disabilities and Learning Differences

The module-specific site on Moodle provides students with access to the module learning materials, including a study guide and online reading list (containing both essential and recommended readings), and additional resources including supplementary exercises and optional lecture recordings. All materials posted up on Moodle areas, including computer-based sessions, have been made accessible where possible (this includes an accessible printable version of each session). The LSHTM Moodle has been made accessible to the widest possible audience, using a VLE that allows for up to 300% zoom, permits navigation via keyboard and use of speech recognition software, and that allows listening through a screen reader. All students have access to "SensusAccess" software which allows conversion of files into alternative formats.

For Students studying University of London Awards (initial registration 2025/2026 and prior years:
For students with special needs, reasonable adjustments and support can be arranged – details and how to request support can be found on the University of London Worldwide website at: Inclusive practice and Access arrangements | University of London

For Students Studying LSHTM awards (registration 2026/2027 and onwards):
For students who require learning or assessment adjustments and support this can be arranged through the Student Support Services – details and how to request support can be found on the LSHTM Disability Support pages.