



MODULE SPECIFICATION

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| Academic Year (student cohort covered by specification) | 2022-23 |
| Module Code | EPM101 |
| Module Title | Fundamentals of Epidemiology |
| Module Organiser(s) | Sujit Rathod, Enny Cruz |
| Contact | <p>The LSHTM distance learning programmes and modules are run in collaboration with the University of London. Enquiries may be made via their Student Advice Centre at:</p> <p>https://london.ac.uk/contact-us</p> <p>(Enquiries from London-based LSHTM MSc or research students regarding study of DL modules should be emailed to distance@lshtm.ac.uk)</p> |
| Faculty | <p>Faculty of Epidemiology and Population Health London School of Hygiene & Tropical Medicine</p> <p>http://www.lshtm.ac.uk/eph/</p> |
| FHEQ Level | Level 7 |
| Credit Value | CATS: 15 ECTS: 7.5 |
| HECoS Code | 101335 : 100473 : 100962 |
| 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 | <p>This module assumes basic numeracy skills.</p> <p>Note for the Epidemiology programme students: students are encouraged to complete EPM102 at the same time as EPM101.</p> |
| 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 | <p>Fundamentals of Epidemiology is a core module for all students on the DL PG Certificate/ PG Diploma/ MSc Epidemiology and Demography & Health programmes. It can also be taken as an elective module by those studying the DL PG Diploma/MSc in Clinical Trials and Global Health Policy, and as an "individual module" for those wishing to gain a basic</p> |

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| | understanding of epidemiology before deciding whether to take further training in this field. These students may include clinicians, public health officials, nurses and other healthcare providers as well as those working indirectly in health such as medical journalists and scientific officers in government and industry. |
| Module Description | The module provides a solid introductory grounding in the design, analysis and interpretation of epidemiological studies and introduces epidemiological methods applied to public health. |
| Duration | Students may start their studies at any time from receipt of study materials (made available annually usually in October, depending on date of registration) and work through the material until the start of the June examinations (although assessment submission deadlines which are earlier than this must be observed). Students registering after September (individual modules students only) 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 they 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) | Revised by LO 4 April 2022; updated SH 18 August 2022 |

| Programme(s) | Status |
|---|---------------|
| This module is linked to the following programme(s) | |
| PGCert/PGDip/MSc Epidemiology (Distance Learning - University of London Worldwide) | Compulsory |
| PGCert/PGDip/MSc Demography & Health (Distance Learning - University of London Worldwide) | Compulsory |
| PGDip/MSc Clinical Trials (Distance Learning - University of London Worldwide) | Elective |
| PGDip/MSc Global Health Policy (Distance Learning - University of London Worldwide) | Elective |

Module Aim and Intended Learning Outcomes

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| Overall aim of the module |
| The overall module aim is to introduce the basic concepts in the design, analysis and interpretation of epidemiologic studies and to introduce to epidemiologic methods for public health. |

Module Intended Learning Outcomes

Upon successful completion of the module a student will be able to:

1. Describe, calculate and interpret epidemiological measures
2. Identify the key principles and assess the relative merits of different epidemiological study designs
3. Discuss and evaluate key considerations in the design, conduct and interpretation of epidemiological studies
4. Identify the major potential sources of error in epidemiological studies and assess the implications of these sources of error
5. Apply epidemiological principles to the ascertainment of disease in populations.

Indicative Syllabus

Session Content

The module is expected to cover the following topics:

| Session | Title |
|----------------|--|
| FE00 | Overview of Fundamentals of Epidemiology |
| FE01 | Introduction to epidemiological methods |
| FE02 | The epidemiological focus: cases and populations |
| FE03 | Measures of occurrence |
| FE04 | Using routine data in epidemiology |
| FE05 | Measures of effect |
| FE06 | Measures of impact |
| FE07 | Transmission of infection |
| FE08 | Overview of study design |
| FE09 | Confounding and effect modification |
| FE10 | Standardisation |
| FE11 | Bias |
| FE12 | Measurement error: validity and reliability |
| FE13 | From association to causation |
| FE14 | Cross-sectional studies |
| FE15 | Cohort studies |
| FE16 | Case-control studies |
| FE17 | Intervention studies |
| FE18 | Ecological studies |
| FE19 | Surveillance |
| FE20 | Screening |

Teaching and Learning

Notional Learning Hours

| Type of Learning Time | Number of Hours | Expressed as Percentage (%) |
|---------------------------------|-----------------|-----------------------------|
| Directed self-study | 100 | 67 |
| Self-directed learning | 20 | 13 |
| Assessment, review and revision | 30 | 20 |
| 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 the CAL materials 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 material includes LSHTM online library resources.
- 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.
- Completing formative assignment(s) and reflecting on written feedback from module tutors.

Assessment

Assessment Strategy

Formal assessment of this module consists of a two-hour unseen written examination with 15 minutes additional reading/planning time (100%) in June. All five module learning outcomes will be assessed via this task. If students fail the module overall, they are allowed one further attempt at the examination.

Summative Assessment

| Assessment Type | Assessment Length (i.e. Word Count, Length of presentation in minutes) | Weighting (%) | Intended Module Learning Outcomes Tested |
|-----------------|--|---------------|--|
| Exam | | 100 | 1 – 5 |

Timed examinations for DL modules are held once a year, in June (including resits). Examinations in 2022/23 will either be taken in a student's country of residence in one of over 650 [examination centres worldwide](#) or will be held online. If the June 2023 module exam is held at a local examination centre, a local fee will be payable direct to the exam centre. This fee will be in addition to the module fee and is set by, and paid directly to, the individual examination centre. The level of local examination centre fees varies across the world and neither the University of London nor the LSHTM have any control over the fee amount. If the June 2023 module exam is

held online, no additional exam entry fee will be payable. (Note that for those resitting module assessments, a fee will be payable.)

Resitting assessment

Resits will accord with the LSHTM's [Resits Policy](#)

Assessment submission deadlines

Formative Assignment(s) must be submitted by 31st March.

These can be submitted only once and must be submitted via the online Assignment Management System.

Resources

Indicative reading list

- Webb P, Bain C, Page A. *Essential Epidemiology: An introduction for Students and Health Professionals*. Cambridge University Press, 2020 (Fourth Edition). E-book accessible via the LSHTM library.
- Buring JE. *Epidemiology in Medicine*. Lippincott Williams & Wilkins, 1987.
- Porta, M. (Ed.). *A Dictionary of Epidemiology*. Oxford University Press, 2014.
- Buck C, Llopis A. *The Challenge of Epidemiology: Issues and Selected Readings*. Pan American Health Org, 1988.
- dos Santos Silva I. *Cancer Epidemiology: Principles and Methods*. IARC, 1999.

Other resources

The Moodle Virtual Learning Environment (VLE) contains the key materials and resources for EPM101 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.
- Reading material (via the LSHTM online library)
- Discussion forums
- Assignments and Exercises
- Past examination papers and examiner reports.

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

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. 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 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 <https://london.ac.uk/applications/how-it-works/inclusive-practice-access-arrangements>