

Module Specification (Distance Learning)

In collaboration with University of London International Programmes



1. Title:	Design and Analysis of Epidemiological Studies
2. Module code:	CTM207
3. Institution:	Faculty of Epidemiology and Population Health London School of Hygiene & Tropical Medicine Keppel Street London WC1E 7HT http://www.lshtm.ac.uk/eph
4. Module Organiser:	Katie Saunders, Mia Crampton
5. Mode of study:	Distance learning
6. Type:	Elective module
7. Duration and dates:	<p>Deadlines if taken as part of a formal award:</p> <p>Application deadline: 30 June each year Registration deadline: 31 August each year Course registration duration: Up to 5 years Course starts: 1 October each year Examination takes place: Usually June each year (date to be confirmed)</p> <p>Deadlines if taken as an individual module (i.e. not registered for formal award):</p> <p>Application deadline: 31 August each year Registration deadline: 30 November each year Registration duration: 2 years Module study starts: 1 October each year Examination takes place: Usually June each year (date to be confirmed)</p>
8. Credit points:	15 credit points will be awarded on successful completion of this module at Masters level (Level 7).
9. Notional Learning Hours (NLH):	<p>On average the module should take about 150 hours to complete, consisting of the following:</p> <p>Computer-Assisted Learning (CAL) sessions: 40 hours Additional reading time: 24 hours Assignments: 14 hours Self-directed learning: 72 hours.</p>
10. Aim:	To provide a solid understanding of the design, analysis and interpretation of epidemiological studies in the context of clinical trials. Epidemiological studies often provide important background information prior to initiating a trial. Additionally, trial datasets may prove to be the basis for further epidemiological research. In this module students will be introduced to the key considerations in planning and designing epidemiological studies. This will include descriptions and interpretations of epidemiological measures, including disease frequency and effect, and the relative merits of different study designs. Strategies for addressing sampling error, bias and confounding in epidemiological studies will be demonstrated. Students will consider a range of analytic methods including stratified and multivariable approaches, and be able to critically appraise the design, analysis and interpretation of published epidemiological studies.

11. Learning objectives:	<p>On completing this module students should be able to:</p> <ul style="list-style-type: none"> • understand how observational studies can complement randomised trials, • compare the relative merits of different study designs and consider the key issues when choosing an appropriate design to address a research question, • explain the different epidemiological measures of occurrence and effect, and when it is appropriate to use which measures, • recognise the implications of confounding in observational studies and consider ways of controlling for confounders during study design and analysis, • discuss how bias may arise in different study designs and practical strategies for minimising them when designing and conducting a study, • explore interaction effect between two exposures using a stratified analysis, and understand its meaning, • formulate a conceptual framework for estimating the effect of an exposure using multivariable analysis, • apply a logistic regression model to data with a binary outcome and interpret the results.
12. Content:	<p>This module consists of 10 CAL sessions:</p> <p>Overview and Introduction To Epidemiology Observational Study Designs and Interpretation Measures of Occurrences and Effect Cross-Sectional Studies Cohort Studies Case-Control Studies Confounding and Interaction Introduction to Multivariable Analysis Logistic Regression Summary.</p>
13. Learning methods:	<p>Learning is self-directed against a detailed set of learning objectives, identified at the start of each chapter, using the materials provided. These consist of a module textbook which lists a range of activities including focused reading.</p> <p>Student support is available from the module tutors through the web-based discussion forum in which students are encouraged to participate. In addition, module tutors provide written feedback on the submitted assessed assignment.</p> <p>The course uses Computer-Assisted Learning (CAL) material to introduce and explain the principles and methods covered in the module. It is important that all the CAL sessions are completed and understood at each step before progressing with further sessions.</p>
14. Assessment procedures:	<p>Formal assessment of the module will be by an assessed assignment (20%) and by a two-hour unseen written examination (80%).</p> <p>Examinations are normally held in a student's country of residence, in one of over 650 examination centres worldwide. They are arranged mainly through Ministries of Education or the British Council. A local fee will be payable. A list of examination centres can be found at http://www.londoninternational.ac.uk/current_students/general_resources/exams/exam_centres/index.shtml.</p> <p>If students fail an examination at the first entry they will be allowed one further attempt, the following year.</p>

15. Prerequisites:	<p>All of the Clinical Trial (CT) elective modules assume familiarity with the material and terminology introduced in the core CT modules. Students who do not have a background in clinical trials may need to spend some time familiarising themselves with terminology before they can successfully complete any of the CT elective modules.</p> <p>Those wishing to study this module must have regular access to the internet as this module is taught online and through web-based discussions.</p> <p>Students must meet the standard of English required to study this course. See http://www.lshtm.ac.uk/prospectus/english.html.</p>
16. Attendance:	No maximum number
17. Selection, if applicable:	<p>This module is one of the optional modules available to those studying the MSc <u>Clinical Trials</u> course. Those studying for the PG Diploma in Clinical Trials under the credit framework scheme may also choose to study this module. Alternatively, it may be taken as an Individual Module.</p> <p>CT students must study this module if they wish to register for additional elective MSc <u>Epidemiology</u> modules.</p>
18. Fees:	<p>For current schedule of fees see http://www.londoninternational.ac.uk/fees/schedules/lshtm.pdf.</p>
19. Scholarships:	MSc only – see http://www.lshtm.ac.uk/prospectus/funding/ for details.
20. External accreditation:	None
21. Application process:	<p>Applications are managed by the University of London International Programmes (website: http://www.londoninternational.ac.uk/).</p>
22. Further enquiries:	Enquiries may be emailed to distance@lshtm.ac.uk .