MODULE SPECIFICATION

Academic Year (student cohort covered by specification)	2021-22
Module Code	EPM307
Module Title	Global Epidemiology of Non-communicable Diseases
Module Organiser(s)	Laura Woods, Katie Palmer, Dorothea Nitsch
Contact	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: https://london.ac.uk/contact-us
	(Enquiries from London-based LSHTM MSc or research students regarding study of DL modules should be emailed to distance@lshtm.ac.uk)
Faculty	Faculty of Epidemiology and Population Health London School of Hygiene & Tropical Medicine http://www.lshtm.ac.uk/eph/
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	**Epidemiology students** must have passed EPM101 *Fundamentals of Epidemiology* and EPM102 *Statistics for Epidemiology* [previously entitled *Statistics with Computing*], and should have studied EPM103 Practical Epidemiology and EPM105 *Writing and Reviewing Epidemiological Papers* prior to studying this module.
	Demography & Health students should have studied and have an understanding of EPM101 *Fundamentals of Epidemiology* and EPM102 *Statistics for Epidemiology* [previously entitled *Statistics with Computing*] and should have studied both these modules prior to studying EPM307.

	Clinical Trials students must ensure that they have studied CTM207 *Design and Analysis of Epidemiological Studies* **before** studying this module. **Global Health Policy students** must ensure that they have studied EPM101 *Fundamentals of Epidemiology* **before** studying this module. Students should also have a good working knowledge of basic statistics and practical epidemiological concepts and, in particular, are expected to work through the Computer Assisted learning (CAL) sessions of EPM102 *Statistics for Epidemiology* [previously entitled *Statistics with Computing*] and EPM103 *Practical Epidemiology* before studying this module; the CAL sessions will be provided alongside the EPM101 material. **Students studying this module as an individual module** must have basic epidemiological knowledge and skills equivalent to EPM101 *Fundamentals of Epidemiology*, EPM102 *Statistics for Epidemiology* [previously entitled *Statistics with Computing*] and EPM103 Practical Epidemiology.
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 those with an interest in non-communicable diseases in any population setting including those concerned with public health in low- and middle-income countries.
Module Description	This module introduces the global epidemiology of non-communicable diseases, using a number of specific disease areas to highlight key aspects of epidemiological research in non-communicable diseases.
Duration	Students may start their studies at any time from access/receipt of study material (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 (continuing and individual module 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)	February 2020

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

Overall aim of the module
The overall module aim is to: • provide an introduction to the global epidemiology of non-communicable diseases.

Module Intended Learning Outcomes
Upon successful completion of the module a student will be able to: 1. Discuss and give examples of the importance of non-communicable diseases as a major public health burden and trends in non-communicable diseases in different parts of the world. 2. Critically analyse the ways in which global and population level forces are shaping the distribution of risk factors for non-communicable diseases, including aspects of inequality and considering the life-course. 3. Identify the key challenges faced by epidemiology and public health researchers and health professionals and the solutions in studying and controlling these conditions. 4. Apply molecular biomarkers as measures for exposure, susceptibility, and disease outcomes of non-communicable diseases, describe their limitations and their utility in contributing to hypothesis formulation and in understanding mechanistic pathways and causal associations.

Indicative Syllabus

Session Content
The module is expected to cover the following topics:
GN01   Introduction to the epidemiology of non-communicable diseases: introduction and overview GN02   Upstream determinants of non-communicable diseases GN03   Life-course approach to non-communicable diseases GN04   Socio-economic inequalities in health GN05   Molecular epidemiology: Biomarkers GN06   Mendelian randomisation: a tool to understanding environmental causes of disease GN07   Epidemiology of reproductive health GN08   Cardiovascular diseases and Type 2 diabetes GN09   Cancer epidemiology GN10   Respiratory diseases (COPD and asthma) GN11   Mental health (Depressive disorder and schizophrenia) GN12   Emerging issues and ongoing challenges of non-communicable diseases

Teaching and Learning

Notional Learning Hours

Type of Learning Time	Number of Hours	Expressed as Percentage (%)
Directed self-study	80	53
Self-directed learning	20	27
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 which introduce, explain and apply the principles and methods covered in the module. • Reading and reflecting on other resources which support the learning in the CAL sessions. • Accessing academic support which is available from the module tutors through the online discussion forums and occasional real-time sessions (using Collaborate Ultra) in which students are encouraged to participate. • Completing the formative assignment and reflecting on written feedback from module tutors. • Completing the assessed assignment and reflecting on written feedback from module tutors.

Assessment

Assessment Strategy
Formal assessment of this module includes a two-hour unseen written examination with 15 minutes' additional reading/planning time (70%) and an assessed assignment (30%). For their assessed assignment, students are asked to critically review and summarize information from a number of papers and aggregate data on a particular research question within the epidemiology of non-communicable diseases. They are asked to prepare a brief report discussing the information provided to them in the light of the methods used to obtain the data. The assessment task requires students to demonstrate the ability to interpret study findings appropriately in the light of the study design and research question. The assessment task thus gives students an opportunity to consolidate their learning and requires students to apply their learning across the whole of the module. The formative assessment has the same format but addresses another research question. Doing the formative assessment enables the students to practice prior to attempting the summative assessment. If students fail the module overall, they are allowed one further attempt at the failed element (examination and/or assignment).

Summative Assessment

Assessment Type	Assessment Length (i.e. Word Count, Length of presentation in minutes)	Weighting (%)	Intended Module Learning Outcomes Tested
Assessed Assignment	1000 words	30	1-3
Exam	2hrs 15mins	70	1-4

Resitting assessment
Resits will accord with the LSHTM's [Resits Policy]

Resources

Indicative reading list

Beaglehole, R., Bonita, R., Horton, R., *et al.* 2011. Priority actions for the non-communicable disease crisis. *Lancet*, 377(9775): 1438-1447.

McMichael, A.J., *et al.* 2007. Food, livestock production, energy, climate change, and health. *Lancet*, 370: 1253-1263.

Global Burden of Disease 2015, Mortality & Causes of Death Collaborators. 2016. Global, regional, and national life expectancy, all-cause mortality, and cause-specific mortality for 249 causes of death, 1980-2015: a systematic analysis for the Global Burden of Disease Study 2015. *Lancet*, 388(10053): 1459-1544.

Global Burden of Disease 2015, DALYs & HALE Collaborators. 2016. Global, regional, and national disability-adjusted life-years (DALYs) for 315 diseases and injuries and healthy life expectancy (HALE), 1990-2015: a systematic analysis for the Global Burden of Disease Study 2015. *Lancet*, 388(10053): 1603-1658.

Reardon, S. 2011. A world of chronic disease. *Science*, 333: 558-9.

Calvert, C. & Ronsmans, C. 2013. The contribution of HIV to pregnancy-related mortality: a systematic review and meta-analysis. *AIDS*, 27(10): 1631-1639.

Davey Smith, G., Ebrahim, S. 2005. What can Mendelian randomisation tell us about modifiable behavioural and environmental exposures? *BMJ*, 330: 1076-1079.

Other resources

The Moodle Virtual Learning Environment (VLE) contains the key materials and resources for EPM307 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.
- Readings (via the LSHTM online library)
- Discussion forums
- Assignments
- Past examination papers and examiner reports.

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 another MSc programme also have online access to the EPM1 computer-based sessions (this access will exclude tutor support and associated 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 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