



UNIVERSITY
OF LONDON

LONDON
SCHOOL of
HYGIENE
& TROPICAL
MEDICINE



MODULE SPECIFICATION

Academic Year (student cohort covered by specification)	2020-21
Module Code	PHM205
Module Title	Environmental Epidemiology
Module Organiser(s)	Dr Ai Milojevic
Contact email	<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.</p> <p>(Enquiries from face-to-face i.e. London-based the LSHTM MSc or research students regarding study of DL modules should be emailed to: distance@lshtm.ac.uk).</p>
Faculty	<p>Public Health & Policy: The London School of Hygiene & Tropical Medicine</p> <p>https://www.lshtm.ac.uk/research/faculties/php</p>
FHEQ Level	Level 7
Credit Value	CATS: 15 ECTS: 7.5
HECoS Code	101317 : 101335 : 101048
Mode of Delivery	Distance Learning
Mode of Study	Directed self-study, through online materials (Virtual Learning Environment)
Language of Study	English
Pre-Requisites	<p>The module assumes knowledge of basic epidemiological principles and methods as gained by completion of the core module PHM101 Basic Epidemiology or similar. If students have concerns about these pre-requisites they should contact PHsupport@lshtm.ac.uk before registering for the module to seek advice. Some familiarity with the use of the Stata is helpful but not essential.</p>
Accreditation by Professional Statutory and Regulatory Body	None
Module Cap (Maximum number of students)	None
Target Audience	This module is available to students registered for the DL MSc and PGDip in Public Health. It is recommended for students



**UNIVERSITY
OF LONDON**

LONDON
SCHOOL of
HYGIENE
& TROPICAL
MEDICINE



	studying the MSc Public Health: Environment and Health stream. The module is also open to students on the DL PGDip/MSc Clinical Trials, Epidemiology and Global Health Policy programmes. Alternatively, it can also be taken as an individual module.
Module Description	The module focuses on the basis of knowledge about environmental risks to human health and answers the question how do we know what we think we know about environmental hazards. It covers classical and emerging issues including air pollution, water scarcity and wastewater reuse, congenital anomalies, ionizing and non-ionizing radiation and climate change.
Duration	Studies for distance learning modules begin in early October. At this time, module materials will be made available on Moodle and the module textbook will be made available in either hard copy or e-format, once fees have been paid. Students may start their studies at any time from the beginning of October and work through the material until the start of the June examinations. Students must adhere to other earlier assessment submission deadlines.
Last Revised (e.g. year changes approved)	05/2020

Programme(s)	Status
This module is linked to the following programme(s)	
MSc Public Health: Environment and Health (Distance Learning - University of London Worldwide)	Recommended Elective
PGDip Public Health (Distance Learning - University of London Worldwide)	Elective
MSc Public Health (General Stream) (Distance Learning - University of London Worldwide)	Elective
MSc Public Health: Health and Promotion (Distance Learning - University of London Worldwide)	Elective
MSc Public Health: Health Services Management (Distance Learning - University of London Worldwide)	Elective
PGDip/MSc Clinical Trials (Distance Learning - University of London Worldwide)	Elective
PGDip/MSc Epidemiology (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:

- Foster a theoretical and practical understanding of the design and analysis of studies in environmental epidemiology, with main emphasis on the industrialized world.

Module Intended Learning Outcomes

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

1. Describe the main methodological issues in environmental epidemiology, specifically those relating to the investigation of the health effects of pollution of air, water and land, and the health effects of ionizing and non-ionizing radiation and climate change;
2. Assess and critically interpret scientific data relating to potential environmental hazards to health;
3. Plan, conduct and interpret the initial investigation into a putative disease cluster;
4. Describe the principles of geographical and time-series studies for the investigation of the health effects of environmental exposures.
5. Describe the methods of quantitative risk assessment.

Indicative Syllabus

Session Content

The module is expected to cover the following topics:

- Key issues in environmental epidemiology;
- Methods for investigating environmental hazards;
- Disease cluster, covering practical public health questions and complexities of performing and interpreting formal epidemiological studies;
- Health effects of air pollution, introducing time series study designs and comparing their evidence with that of semi-ecological cohort studies;
- Health effects of ionizing and non-ionizing radiation;
- Water-related health risks, covering global challenges of access to clean water and the hazards associated with wastewater use in agriculture;
- Congenital anomalies in consideration of possible association with hazardous waste (overview);
- Climate change and health with focus on extreme weather events and vector-borne disease;
- Time-series analysis of health and environmental data (computer-based practical)
- Health risk assessment (computer-based practical);
- A framework for evaluating epidemiological evidence on environment and health risk.

Teaching and Learning

Notional Learning Hours

Type of Learning Time	Number of Hours	Expressed as Percentage (%)
Directed self-study	110	73.3
Self-directed learning	0	0
Assessment, review and revision	40	26.7
Total	150	100

Teaching and Learning Strategy

Learning is via directed self-study. A guide to studying the module is provided, together with access to a range of study resources, discussion forums and collaborate sessions. The textbook that supports this module provides a detailed set of learning objectives at the start of each chapter, and also offers focused reading and various learning activities. Students are strongly encouraged to participate in the module-specific discussions and collaborate sessions to obtain tutor support, and to make use of the LSHTM on-line library resources. Written feedback is provided on submitted assignments.

Students are directed to use the various online electronic resources and to read and work through the exercises provided. Learning materials include: a brief guide to the module, recommended reading from the peer-reviewed scientific literature, Frequently Asked Questions (FAQs) and suggested relevant websites.



Assessment

Assessment Strategy

This module is assessed via one required assignment worth 30% of the student's mark and a summative exam of 2 hours and 15 minutes that is worth 70% of the student's mark. For the summative exam, students are advised to spend the first 15 minutes reading the instructions and questions.

Summative assessment

Assessment Type	Assessment Length	Weighting (%)	Intended Module Learning Outcomes Tested
Assessed Assignment	Please see the Assignment Instructions for details.	30	All
Exam	2-hours and 15 minutes	70	All

Assignments for this module can be submitted only once annually, no later than 31 March and must be submitted via the online Assignment Management System.

Unseen written examinations for DL modules are held once a year, in June (including resits). Examinations are normally taken in a student's country of residence, in one of over 650 examination centres worldwide (arranged mainly through Ministries of Education or the British Council). A list of examination centres can be found at <https://london.ac.uk/current-students/examinations/examination-centres>.

A local fee will be payable direct to the examination centre. This fee is in addition to the programme/module fee and is set by, and paid directly to, the individual examination centres. 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.

Resitting assessment

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

The Resit assessment will be the same assessment type as the first attempt (see previous table).



Resources

The following materials are provided to students after registration and fee payment for this module in September/October:

- A brief guide to studying the module;
- A reading list including details of both required and optional reading and links to selected papers;
- A list of useful websites;
- Access to the LSHTM Virtual Learning Environment (VLE) - Moodle, where students can access a range of materials, including some of the materials listed above; participate in module-specific discussion forums and Collaborate sessions and access the LSHTM online library resources;
- Selected readings from the textbook *Environmental Epidemiology* edited by Paul Wilkinson.

Please note the textbook will be made available in e-format or hard copy to students. All other materials may be accessed via the LSHTM VLE – Moodle.

Teaching for Disabilities and Learning Differences

The module-specific site on Moodle provides students with access to the majority of the module learning materials, including a study guide and online reading list (detailing both essential and recommended readings), and additional resources including supplementary exercises and optional lecture recordings. In some cases, module materials include a book that is made available to students in either hard copy or e-format. 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. Please contact the University of London through the “Ask a question” resource on the Student Portal if you require any documents in an alternative format.