Module Specification

UNIVERSITY OF LONDON INTERNATIONAL PROGRAMMES

LONDON SCHOOL of HYGIENE &TROPICAL MEDICINE

GENERAL INFORMATION	
Module name	**Statistics with Computing**
Module code	EPM102
Module Organiser(s)	Natasha Larke, Chris Hurt, Christian Hansen
Contact email	The LSHTM distance learning programmes and modules are run in collaboration with the University of London International Programmes. Enquiries may be made via their Student Advice Centre at: www.londoninternational.ac.uk/contact-us. (Enquiries from face-to-face i.e. London-based LSHTM MSc or research students regarding study of DL modules should be emailed to distance@lshtm.ac.uk.)
Home Faculty	Faculty of Epidemiology and Population Health London School of Hygiene & Tropical Medicine http://www.lshtm.ac.uk/eph
Level	This module is at Level 7 (postgraduate Masters level) of the QAA Framework for Higher Education Qualifications in England, Wales & Northern Ireland (FHEQ).
Credit	LSHTM award 15 credits on successful completion of this module.
Accreditation	Not currently accredited by any other body.
Keywords	Statistics, Epidemiology, Quantitative methods, Research methods.
AIMS, OBJECTIVES AND AUDIENCE	
Overall aim	The aim of this module is to provide students with the key statistical principles that are essential for anyone studying epidemiology. This includes an introduction to the Stata statistical package.
Intended learning outcomes	By the end of this module, students should be able to: • describe the role of statistical methods in epidemiology and population sciences and in their own disciplines, • explain probability and its application conceptually, • demonstrate skills in handling data, on computer and otherwise, and in deriving and presenting quantitative results effectively, using appropriate displays, summaries and tabulations, • appraise the nature of sampling variation and the role of statistical methods in quantifying it, setting confidence limits and testing hypotheses, • select and use appropriate statistical methods in the analysis of simple datasets, and apply these methods by computer (using Stata), • describe and interpret output from statistical analyses carried out by computer, in relation to research and other questions being asked, • present findings based on statistical analysis in a clear, concise and understandable manner, • understand and perform simple sample size calculations.

Target audience	**Statistics with Computing** is a core module for all students on the DL PGCertificate/PGDiploma/MSc Epidemiology and Demography & Health programmes. It may also be taken as an "individual module" for those wishing to gain a basic understanding of key statistical principles in epidemiology before deciding whether to take further training in this field. This 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.
CONTENT	
Session content	The module includes sessions addressing the following topics: **Session** **Title** SC01 Introduction to statistics with computing SC02 Data: Types, summary and presentation SC03 Probability: evaluating the role of chance SC04 The binomial distribution SC05 The normal distribution SC06 Principles of statistical inference SC07 Inference from a sample mean SC08 Comparison of two means SC09 Inference from a sample proportion SC10 Comparison of two proportions SC11 Association between two categorical variables SC12 Measures of effect in 2X2 tables SC13 Matched analysis for paired binary data SC14 Correlation SC15 Linear regression SC16 Non-parametric methods SC17 Introduction to sample size calculation SC18 Summary of the module
TEACHING, LEARNING AND ASSESSMENT	
Study resources provided or required	The following materials are provided to students after registration for this module once a year in September/October: Epidemiology Core Module DVD-Rom (EPM101/102/103) EPM102 Statistics with Computing Workbook Software: Stata Textbooks: *Essential Medical Statistics* (Kirkwood, Sterne). In addition to the materials above, students are given access to i) the LSHTM Virtual Learning Environment, Moodle, which contains resources such as discussion forums and supplementary programme materials and ii) the LSHTM online library.
Teaching and learning methods	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 paper-based materials which support the learning in the CAL sessions. • Completing paper and computer-based practical exercises.

	• Accessing academic support which is available from the module tutors through the web-based discussion forums and real-time sessions (using Blackboard Collaborate) in which students are encouraged to participate. • Completing formative assignment(s) and reflecting on written feedback from module tutors.
Assessment details	Formal assessment of this module includes a two-hour unseen written examination with 15 minutes' additional reading/planning time (100%). If students fail the module overall, they are allowed one further attempt at the examination.
Assessment dates	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 www.londoninternational.ac.uk/community-support-resources/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 International Programmes nor the LSHTM have any control over the fee amount. For students who are required to re-sit, or granted a deferral or new attempt at the written examination, the next examination date will normally be the following June.
Language of study and assessment	English (please see 'English language requirements' below regarding the standard required for entry).
TIMING AND MODE OF STUDY	
Duration	Students may start their studies at any time from receipt of study materials (despatched annually usually during September/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 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.
Dates	Tutorial support for distance learning modules is available from the beginning of October through to the examination in June.
Mode of study	By distance learning.
Learning time	The notional learning time for the module totals 150 hours, consisting of: • **Directed self-study** (reading and working through the provided module material) ≈ 100 hours • **Self-directed learning** (general reading around the subject, library, Moodle discussion forums) ≈ 20 hours • **Assessment, review and revision** ≈ 30 hours

APPLICATION, ADMISSION AND FEES	
Pre-requisites	Note for Epidemiology and Demography & Health students: students are encouraged to study and complete EPM102 at the same time as EPM101. Those wishing to study this module must have regular access to the internet to participate in module-specific discussions on Moodle, benefit from online library facilities and submit assignments.
English language requirements	A strong command of the English language is necessary to benefit from studying the module. Applicants whose first language is not English or whose prior university studies have not been conducted wholly in English must fulfil LSHTM's English language requirements, with an acceptable score in an approved test taken in the two years prior to entry. Applicants may be asked to take a test even if the standard conditions have been met.
Student numbers	There is no cap on the number of students who can register for this distance learning module. The number of students actively studying this module varies, but typically approx. 200 students register for the module per year.
Student selection	This module is compulsory for students registered on the DL PG Certificate / PG Diploma / MSc Epidemiology and Demography & Health Programmes. Alternatively, students may register for this as an "individual module". This module is also open to LSHTM research degree students via the mixed mode study option.
Fees	The current schedule of fees can be viewed at www.londoninternational.ac.uk/fees (click on the LSHTM programme link).
Scholarships	Scholarships are not available for individual modules. Some potential sources of funding are detailed on the LSHTM website.
Admission deadlines	Applications for LSHTM distance learning programmes and modules are managed by the University of London International Programmes. To apply to take either a formal award (i.e. PG Certificate, PG Diploma or MSc) or an individual module, click the relevant link on the right hand side of the page at http://www.londoninternational.ac.uk/courses/postgraduate/lshtm/epidemiology-msc-postgraduate-diploma-postgraduate-certificate. Key deadlines are as follows: ➢ Application deadline: 31 August *(Note: applicants who submit applications on or after 1 June 2017 will be required to pay an application fee of £100 at the point of submission, which will be deducted from the balance of fees payable upon registration. If the application does not result in registration, the application fee will not be refunded. No application fee will apply to applications submitted on or before 31 May 2017.)* ➢ Registration deadline: 30 September (new students) ➢ Registration deadline: 31 October (continuing students and those taking the module as an individual module). ***Please note**: The academic year starts 1 October. Students who register after 1 October should note that module welcome and Collaborate sessions held in October are recorded, but they cannot request an extension to assignment submission deadlines or apply for an examination extenuating circumstance as a result of registering later than 1 October.* (In-house LSHTM research students wishing to study this module should note information given in the mixed mode study option links for DrPH/research degree students at:

	http://intra.lshtm.ac.uk/edu/researchdegrees/rdsupportframework/profdev/rd_mixedmodeinformation.pdf)

ABOUT THIS DOCUMENT

This module specification applies for the academic year 2017-18

Last revised/approved 20th Feb 2017, by Natasha Larke

Further revisions revised [Date / Month / Year], by [Name]