Module Specification

ABOUT THIS DOCUMENT

This module specification applies for the academic year 2018-19
Last revised 01 August 2017 by Phil Edwards

London School of Hygiene & Tropical Medicine, Keppel St., London WC1E 7HT. www.lshtm.ac.uk

GENERAL INFORMATION

Module name  Statistics for EPH
Module code  2021
Module Organisers  Dr Elizabeth Allen, Dr David Macleod, Stephen Nash
Contact email  elizabeth.allen@lshtm.ac.uk
david.macleod@lshtm.ac.uk
stephen.nash@lshtm.ac.uk
Home Faculty  Epidemiology & Population Health
Level  Level 7 (postgraduate Masters ‘M’ level) of the QAA Framework for Higher Education Qualifications in England, Wales & Northern Ireland (FHEQ)
Credit  15 credits, within the larger 60-credit Term 1 super-module for each MSc programme. Credits are not awarded for this module individually, but only for successful completion of the Term 1 super-module.
Accreditation  Not currently accredited by any other body
Keywords  Statistics, Epidemiology, Quantitative methods, Research

AIMS, OBJECTIVES AND AUDIENCE

Overall aim  To introduce the basic statistical methods used in medical and public health research, and to help students develop the skills needed to apply them using the STATA statistical software

Intended learning outcomes  By the end of this module, students should be able to:
- Describe and apply statistical methods in epidemiology and population health, and in their own disciplines
- Demonstrate skills in handling data on a computer and otherwise, and in deriving and presenting quantitative results using appropriate tables, figures and summaries
- Explain the nature of sampling variation and the role of statistical methods in quantifying it, and be able to calculate confidence limits and evaluate hypotheses
- Identify the key features of the normal distribution
- Identify the key features of methods appropriate for sampling surveys
- Select appropriate statistical methods for the analysis of simple data sets and apply them on computer using STATA statistical software
- Interpret and assess the output from statistical analyses carried out on a computer in relation to research and other questions being asked
- Present and discuss the findings from statistical analyses in a clear, concise and logical manner

**Target audience**
This is a compulsory module for the MSc programmes in: Epidemiology, Demography & Health, Public Health for Development, Reproductive & Sexual Health Research, Nutrition for Global Health, Global Mental Health and Veterinary Epidemiology.

**CONTENT**

**Session content**
The module is expected to include sessions addressing the following topics:
- Basic methods of presenting data
- Sampling variation, estimation and hypothesis testing
- Analysis of numerical and binary outcomes
- Regression analysis
- Survey sampling
- Interpretation of data analysis will be a central theme throughout the module

**TEACHING, LEARNING AND ASSESSMENT**

**Study resources provided or required**
Module Information can be found on the Virtual Learning Environment (Moodle) containing information about each session and key references for the module. A recommended reading list is also provided. Solutions to practicals are placed on Moodle. Students require a pocket calculator (e.g. Casio fx-85GT or similar).

**Teaching and learning methods**
Teaching is delivered through a mixture of lectures and practical sessions. Practicals will involve ‘pen & paper’ exercises working in small groups, or computer exercises mainly working in pairs. The emphasis will be on making appropriate tabulations and graphical displays of data and appreciating their meaning, selecting and applying appropriate methods for statistical inference, and correctly interpreting the results. All methods will be illustrated using data from medical studies in developed and developing countries.

**Assessment details**
Formal assessment will be by written examination. Informal assessment will comprise one multiple choice test and one data analysis assignment (neither of which will count towards students’ final MSc degree grades).
For students who are required to resit, or granted a deferral or new attempt, the task will be a written exam the following academic year.

**Assessment dates**
Written examinations will take place during the summer term in late/early June.
Resit/deferred/new attempts will take place during the summer term in early/early June in the following academic year.
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<thead>
<tr>
<th><strong>Language of study and assessment</strong></th>
<th>English (please see ‘English language requirements’ below regarding the standard required for entry).</th>
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<tbody>
<tr>
<td><strong>TIMING AND MODE OF STUDY</strong></td>
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<tr>
<td><strong>Duration</strong></td>
<td>10 weeks at 1 day per week</td>
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<td><strong>Dates</strong></td>
<td>Tuesday afternoons and Friday mornings</td>
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<td><strong>Timetable slot</strong></td>
<td>Term 1</td>
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<td><strong>Mode of Study</strong></td>
<td>The module is taught face-to-face in London. Both full-time and part-time students follow the same schedule.</td>
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<td><strong>Learning time</strong></td>
<td>The notional learning time for the module totals 150 hours, consisting of:</td>
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<td>- Contact time ≈ 70 hours</td>
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<td>- Directed self-study ≈ 10 hours</td>
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<td>- Self-directed learning ≈ 35 hours</td>
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<td>- Assessment, review and revision ≈ 35 hours</td>
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<td><strong>APPLICATION AND ADMISSION</strong></td>
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<td><strong>Pre-requisites</strong></td>
<td>This module does not assume any previous knowledge of statistics and is a pre-requisite for the more advanced statistical modules taught in Term 2.</td>
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<td><strong>English language requirements</strong></td>
<td>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.</td>
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<tr>
<td><strong>Student numbers</strong></td>
<td>300 (numbers may be capped due to limitations in facilities or staffing)</td>
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| **Student selection**               | This is a compulsory module for the MSc programmes in: Epidemiology, Demography & Health, Public Health in Developing Countries, Reproductive & Sexual Health Research, Nutrition for Global Health, Global Mental Health and Veterinary Epidemiology.  
Partial Registration (partial participation) by LSHTM research degree students is allowed for this module.  
Preference will be given to LSHTM MSc students and LSHTM research degree students. Other applicants meeting the entry criteria will usually be offered a place in the order applications are received, until any cap on numbers is reached. Applicants may be placed on a waiting list and given priority the next time the module is run. |