# MODULE SPECIFICATION

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| **Academic Year (student cohort covered by specification)** | 2024-25 |
| **Module Code** | PHM102 |
| **Module Title** | Basic Statistics for Public Health and Policy |
| **Module Organiser(s)** | Jessica Nakiyingi-Miro and Kiran Nanchahal |
| **Contact email** | The LSHTM distance learning programmes and modules are run in collaboration with the University of London. Enquiries may be made via the: Student Advice Centre.<br><br>(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). |
| **Faculty** | Public Health & Policy: The London School of Hygiene & Tropical Medicine<br>Faculty of Public Health and Policy \| Faculties and MRC units \| LSHTM |
| **FHEQ Level** | Level 7 |
| **Credit Value** | **CATS:** 10<br>**ECTS:** 5 |
| **HECoS Code** | 100406 : 101030 : 101031 |
| **Mode of Delivery** | Distance Learning |
| **Mode of Study** | Directed self-study, through online materials (Virtual Learning Environment) |
| **Language of Study** | English |
| **Pre-Requisites** | None |
| **Accreditation by Professional Statutory and Regulatory Body** | None |
| **Module Cap (Maximum number of students)** | None |
| **Target Audience** | Compulsory module for all students on DL MSc/PGDip and PGCert Public Health. Alternatively, it can also be taken as an individual module. |
| **Module Description** | This module provides students with an introduction to the basic concepts and methods of statistics, to help them to understand, interpret and apply basic statistical methods within a public health context. |

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| **Duration** | Studies for distance learning modules begin in early October. At this time, module materials will be made available on Moodle 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 assessments. However, students are encouraged to commence their studies in October and work steadily through the materials over the course of the academic year and must adhere to other assessment submission deadlines. |
| **Last Revised (e.g. year changes approved)** | April 2024 |

| **Programme(s)**<br>This module is linked to the following programme(s) | **Status** |
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| MSc Public Health (General stream) (Distance Learning - University of London Worldwide) | Compulsory |
| MSc Public Health: Environment and Health (Distance Learning - University of London Worldwide) | Compulsory |
| MSc Public Health: Health Promotion (Distance Learning - University of London Worldwide) | Compulsory |
| MSc Public Health: Health Services Management (Distance Learning - University of London Worldwide) | Compulsory |
| MSc Public Health: Health Economics (Distance Learning - University of London Worldwide) | Compulsory |
| PGCert and PGDip Public Health (Distance Learning - University of London Worldwide) | Compulsory |

## Module Aim and Intended Learning Outcomes

| **Overall aim of the module** |
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| This module aims to:<br>• improve students' ability to critically assess basic statistical methods and their use in public health. |

| **Module Intended Learning Outcomes** |
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| Upon successful completion of the module a student should be able to:<br>1. Describe the role of statistical methods in public health research;<br>2. Articulate the problem of sampling variation, and the role of statistical methods in quantifying this;<br>3. Select and justify an appropriate statistical method for the analysis of simple data sets and perform simple statistical analyses using Stata;<br>4. Interpret the results of statistical analyses reported in the health literature and from their own statistical analyses; |

| Module Intended Learning Outcomes |
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| 5. Interpret and present these findings in a clear, concise, and logical manner by making appropriate displays, summaries, and tables of data. |

## Indicative Syllabus

| Session Content |
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| The module is expected to cover the following topics:<br>• Describing data: tables and graphs; proportions; measures of central tendency (mean, median), and spread (range, standard deviation); differences and ratios;<br>• Sampling variability: confidence intervals and p-values, especially for means and proportions, and for differences in means and proportions;<br>• Simple linear regression analysis and correlation coefficients and an introduction to multivariable analysis;<br>• Statistical analyses by computer (using Stata).<br><br>Specific sessions included in the module computer-aided learning (CAL) materials are:<br>• Introduction to basic statistics for public health;<br>• Types of data, summary and data presentation;<br>• Probability and the normal distribution;<br>• Principles of statistical inference;<br>• Inference from a sample mean;<br>• Comparison of two means;<br>• Inference from a sample proportion;<br>• Comparison of two proportions;<br>• Association between two categorical variables;<br>• Correlation;<br>• Linear regression;<br>• Introduction to multi-variable analysis;<br>• Summary of study module;<br>• An optional session of measures of effect in 2 x 2 tables. |

## Teaching and Learning

### Notional Learning Hours

| Type of Learning Time | Number of Hours | Expressed as Percentage (%) |
|---|---|---|
| Directed self-study | 70 | 70 |
| Self-directed learning | 0 | 0 |
| Assessment, review and revision | 30 | 30 |
| **Total** | **100** | **100** |

| Teaching and Learning Strategy |
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| 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 online webinar discussion sessions. The textbook that supports this module is provided as an e-book and 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 online webinar discussion sessions to obtain tutor support, and to make use of the LSHTM on-line library resources. Written feedback is provided on submitted assignments.<br><br>Students are encouraged to make use of the LSHTM online library resources and are strongly encouraged to participate in the module-specific discussions on Moodle, the LSHTM's Virtual Learning Environment (VLE), and to complete the formative (non-assessed) assignment.<br><br>Student support is available from the module tutors through the online discussion fora and scheduled interactive sessions on specific topics. Module tutors provide asynchronous feedback for all students on the online discussion fora and offer individual feedback on a formative assignment submitted by the student. Tutorial support for distance learning modules is available from the beginning of October through to the end of May. |

## Assessment

| Assessment Strategy |
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| A formative assessment (**FA)** is offered to encourage students to test their new knowledge and receive individual feedback. The formative assessment is optional and will not count towards a student's final grade. The FA deadline is 31 March.<br><br>The summative assessment of this module is by a time-limited assessment (100%). |

**Summative assessment**

| Assessment Type | Assessment Length | Weighting (%) | Intended Module Learning Outcomes Tested |
| --- | --- | --- | --- |
| Time-limited assessment | TBC | 100 | All |

Time-limited assessments for DL modules are held once a year, usually in June (including resits).

Assessments are held in accordance with University of London's annual guidance but in 2024-25 they are likely to be held online.

Please note that a separate assessment fee may be payable in addition to the module fee. Further details will be communicated as soon as the final decisions are known.

| **Resitting assessment** |
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| Resits will accord with the LSHTM's Resits Policy.<br>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 October:

- A brief guide to studying the module.
- The CAL sessions that comprise the core of the module. Students may either work on these online via Moodle, or they can download them from Moodle to work on offline;
- The Workbook *Basic Statistics for Public Health and Policy* by Susan Stirling and Ben Armstrong (available to download from Moodle);
- An online link to a licence for Stata software, a statistical package you will learn to use. Students will need to download the Stata software once they have completed the online licence, and are strongly recommended to check prior to registering for the module that their operating system will support Stata. Details of compatible operating systems can be found on the Stata website;
- The textbook *Essential Medical Statistics* by Kirkwood and Sterne for back-up reading. A specification of sections relevant to each CAL session is given in the CAL materials;
- A reading list including details of both required and optional reading and links to selected papers;
- Access to the LSHTM VLE - Moodle, where students can access a range of materials, including those listed above; participate in module-specific discussion forums and online webinar discussion sessions and access the LSHTM online library resources.

All materials are provided in e-format and 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 text book that is made available to students in 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. 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: Inclusive practice and Access arrangements | University of London: