

**Course:** Clinical and community trials  
**Prerequisite:** A basic course in Principles of Epidemiology

**Course:** Applied Biostatistics II : Logistic regression  
**Prerequisites:**

- Must have demonstrated knowledge of basic biostatistics, or undertaken.
- Biostatistics level I course of MakSPH or its equivalent.

### Fees

Local participants pay tuition fees of Ugshs 750,000 while those from outside the country pay US\$ 300. The fees will cater for course materials, bag, lunch, teas, water and organizational costs. These funds do not cover accommodation, and travel.

### Accommodation

Participants can arrange their own accommodation. There are affordable accommodation options near MakSPH some of these are;

- Mulago Hospital Guest House :  
Tel: +256-414-530369
- Makerere University Guest House:  
Tel: +256-772-462311, +256-414-534169  
Website : [www.makunivguesthouse.com](http://www.makunivguesthouse.com)

Costs for budget accommodation are between US\$5 - 50 per day. Other costs to consider in Kampala include daily mini-bus transport at US\$3, food US\$5 daily.

### Facilitators

The course will be facilitated by experienced lecturers at MakSPH. During the entire course facilitators will be available for consultation.

### How to apply

Application forms can be obtained from the department of epidemiology and biostatistics Makerere university school of Public Health or from the website:

<http://www.musph.ac.ug/index.php/short-courses/196-short-courses-in-epidemiology-and-biostatistics>

Deadline for applications is 30th May of each year but -the earlier the better. We have limited slots which are offered on first come first served basis as long as one has minimum qualification

For further information contact:

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**SHORT COURSES IN  
EPIDEMIOLOGY AND  
BIostatistics**

## Introduction

The increasing demand for research and analytical skills at places of work has put many graduates in a situation where they need to refresh their knowledge or acquire completely new skills to cope with the challenges at work. The situation is worse for Masters and PhD students for they must have the analytical skills to be able to attain the coveted academic awards. Practical Epidemiology and Biostatistics are some of the most sought after skills. The Department of Epidemiology and Biostatistics at Makerere University School of Public Health has developed and packaged short courses to respond to the expressed training needs by graduate students from various disciplines, researchers and people employed in other sectors. The acquired skills will enhance the participants' productivity at their work places or improve the quality of dissertation or publications in case of student or academic participants.

## Short Courses offered

- Applied Biostatistics I: Data Management
- Applied Biostatistics I: Level-1 Data Analysis
- Applied Biostatistics II: Logistic regression
- Principles and Practices of Epidemiology
- Clinical and Community trials

The courses will take place in July and August each year at Makerere University School of Public Health . Over 50% of the time on each course is either practical or field experience

### Schedules for the courses in 2017

Dates	Epidemiology	Biostatistics
3 <sup>rd</sup> - 14 <sup>th</sup> July 2017	Principles and Practices of Epidemiology	Applied Biostatistics I
17 <sup>th</sup> - 28 <sup>th</sup> July 2017	Clinical and community trial	Applied Biostatistics II Logistics regression

## Course Schedule for 2017

In 2017 the first level courses will take place from Monday 3<sup>rd</sup> to Friday 14<sup>th</sup> July 2017 while the second level will take place from Monday 17<sup>th</sup> July to Friday 28<sup>th</sup> July 2017

## COURSE CONTENT

### a. Course Name: Applied Biostatistics I: Data Management

- Data capture tools development
- Data entry screen designing, entry and data cleaning
- Security issues with managing online data, including cloud servers
- Electronic data capture using ODK (Forms design, collation, submission and data download)
- Processing data for analysis and report writing (Data aggregation, creating .csv files and data cleaning programmes)

**N.B:** This course is mainly hands-on computational. Android smart phones will be availed for the electronic data capture

### b. Applied Biostatistics I: Level-1 Data Analysis

- Overview of data analysis
- Preparing for data analysis: The Data analysis plan
- Overview of Univariate analysis
- Introduction to Stata/SPSS
- Overview of Bivariate analysis
- Analysis of continuous data: Correlation, t-tests, Linear regression, ANOVA and the F-test
- Analysis of categorical data: Chi-square tests, Odds ratios, Rate ratios, Prevalence ratios, Stratified analysis.
- Data presentation and interpretation: Tables, graphs and narratives.

### c. Applied Biostatistics II - Logistic regression

- Review of Linear regression
- Logit transformation
- Model building and diagnostics
- Confounding and interaction
- Interpretation and reporting

### d. Principles and Practices of Epidemiology

- Introduction to Epidemiology
- Measuring disease e.g. Heart Disease, Pneumonia, Diabetes
- Validity of measurements
- Standardisation of rates
- Disease Surveillance e.g. HIV, Malaria, NCDs
- Outbreak investigation e.g. Ebola, Measles, Marburg
- Descriptive studies e.g. Cross-sectional survey
- Analytical studies e.g. Cohort, Case-control
- Causal inference
- Overview of interventional studies
- Epidemiology in research

### e. Clinical and community trials

- Terminologies and definitions in interventional studies
- Review of the different intervention study designs
- Practical issues in the conduct of the interventional studies.
- Ethical issues in the conduct of interventional studies
- Types of Data analysis in intervention studies.

## Prerequisites for the courses

- ◆ At least a bachelor's degree
- ◆ Proficiency in verbal and written English.
- ◆ Participants are expected to have Laptops.
- ◆ All are encouraged to come with data they wish to work with after the course. Those who don't have their own data will use the data provided during the course.

Requirements specific to the courses are shown below:

**Course:** Principles and Practices of Epidemiology

**Prerequisite:** A university degree

**Course:** Applied Biostatistics I

- Prerequisites:**
- Basic computer skills
  - Previous exposure to data management or background in mathematics related subject