

Course Title/Code: Introduction to Biostatistics (MMPH6002)

Department: School of Public Health

Objective:

1. To introduce the students to biostatistical methods and the underlying principles, as well as practical guidelines of "how to do it" and "how to interpret it" as the role they can play in decision making for public health majors.
2. To introduce the students to descriptive and inferential statistical techniques, with emphasis on selection of appropriate methods and tools for various applications, and proper interpretation of results.
3. To introduce SPSS, a commonly used software package for statistical analyses.

Content:

Topics include:

- Exploratory data analysis
- Regression and correlation
- Probability
- Statistical inference
- Hypothesis tests
- Designing studies
- Applied regression
- Analysis of survival data
- Statistics in practice

Learning Outcomes:

The Course consists of lectures, tutorials and practicals. On completion of the course, the students are expected to be able to:

1. Present data using appropriate tabular and graphical formats.
2. Define and calculate standard measures of location and dispersion of data.
3. Define probability and recognize common probability distributions including the binomial and Normal distributions.
4. Estimate and interpret confidence intervals for means and proportions based on random samples from a population.
5. Calculate and interpret p-values for simple hypothesis tests.
6. Interpret parameter estimates and confidence intervals from linear regression, logistic regression and proportional hazards regression models.

7. Perform power and sample size calculations for one- and two-group studies.

Prerequisite: None

Duration: 3 hours/week; 30 contact hours

**Continuous assessment/
examination ratio:**

1. Assignments: 15%
2. Mid-term exam: 15%
3. Final examination: 70%

**Examination method/
duration:** Written examination / 2 hours

Remarks: Also offered to RPg from other Faculties at HKU.