UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Principles of Biostatistics

2122-3-E4102B073

Learning objectives

The aim of the course is to teach how to design an experimental or an observational study in the biomedical field, how to choose the proper statistical method in analyzing data and how to interpret the results.

Knowledge and understanding

This course will provide knowledge and understanding regarding:

Applying knowledge and understanding

Contents

Detailed program

1. Introduction to the course

1.1 The steps of the biomedical research and the role of the biostatistician

2. Analysis of continuous responses

2.1 T-test and analysis of variance

2.2 Assumptions

2.3 Non-parametric tests

2.4 Simple and multiple linear regression

3. Analysis of categorical responses

3.1 Analysis of contingency tables

3.2 Simple and multiple logistic regression

3.3 . Dose-response relationship

4. Analysis of time-to-event (survival) data

4.1 Time-to-event data

4.2 Non-parametric estimate of the survivor function (Kaplan-Meier method)

Prerequisites

None

Teaching methods

Lectures

Computer lab with applications in SAS

Assessment methods

The oral exam will be based on the course contents.

The oral exam will test the student's knowledge of the main statistical methods used in the biomedical field.

Textbooks and Reading Materials

Martin Bland – An Introduction to Medical Statistics – Oxford University Press

Semester

Semester I, Cycle I

Teaching language

Italian