UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Biostatistics

2021-4-H4102D027-H4102D099M

Aims

The student will learn the basic tools to understand scientific results in observational and experimental studies with continuous outcome, binary outcome, survival time outcome.

The student will learn how to interpret results from regression models relating aforementioned outcome to explanatory/exposure variables.

The student will work on the intepretation of results from scientific papers in cardiologic research in adults and children.

Contents

Detailed program

Recap on study designs, sampling methods, confidence intervals.

- Linear regression

Methodological definition of correlation and linear regression: model formulation, results interpretation, prediction.

Comment on the results of a scientific paper including linear regression analysis.

- Logistic regression

Methodological definition of logistic regression: model formulation, results interpretation, prediction.

Comment on the results of a scientific paper including logistic regression analysis.

- Survival analysis

Basic theory in survival analysis: complexities of life time data, survival/incidence functions, rate, hazard function, Kaplan Meier estimator, epidemiological rate (exponential) estimator.

Comment on the results of a scientific paper including Kaplan Meier curves and Cox model.

- Additional content (not mandatory)

Stata commands to run _____

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- Videoclip on Lecture 1
- Quiz on Lecture 1
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- Videoclip on Lecture 2
- Quiz on Lecture 2
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- Online class Mon 16/11/2020 h 10.00-11.15 ____
- Quiz on Lecture 3 (optional)
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- Quiz on Lecture 4
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- Videoclip on Lecture 5
- Quiz on Lecture 5
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- Online class Mon 30/11/2020 h 10.00-11.15 https://unimib.webex.com/meet/laura.antoli
- Quiz on Lecture 6

Prerequisites

- Basic descriptive and inferential statistics.

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Teaching form

During the Covid-19 emergency the lectures will be delivered from remote in asynchronous/synchronous manner and video recorded.

Textbook and teaching resource

- Book "Biostatistics for Biological and Health Sciences" - chapter 1 (section 3), chapter 10 (from section 2 to 5) and chapter 14.

- You can borrow the e-book here https://www.biblio.unimib.it/it in the section "curiosone"
- You can buy the paper back book here _____

- Quiz (mandatory for self assessement).

Slides (related to the book).

- Scientific papers.

Semester

First semester

Assessment method

On esamionline.elearning platform.

Type of test: multiple choice/open questions (11 questions, 3 points for each correct answer, no penalties for wrong answers). If the total score is >=18 you pass.

Office hours

When: under request by the elearning email

Where: on the Webex room of the teacher https://unimib.webex.com/meet/laura.antolini