UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Statistics For Research

2122-3-I0202D130-I0202D059M

Aims

Consolidation of basic knowledge of the main statistical-methodological tools of descriptive statistics and introduction to inferential statistics for study planning and data analysis, with emphasis on the peculiarities of the data in the psychological field.

The module aims to make the student able to:

- Critically read the scientific literature that presents descriptive and inferential statistical analyzes
- Have a solid basic knowledge to be involved in the design and implementation of studies in the psychological field

Contents

Review of basic definitions and descriptive statistics, sample and population to generalize and infer, probability calculation, basic concepts of inferential statistics, sample probability distributions of the arithmetic mean and proportion, hypothesis testing on the mean (s) and proportion(s) of the population(s), confidence interval on the mean and proportion of the population(s).

Detailed program

- Sample and population: sample randomness, generalization and inferring from the population - **chapter 9**
- Calculation of probabilities: basic concepts and main rules - **chapter 10**
- Introduction to inferential statistics: null hypothesis, alternative hypothesis, error of the first and second types - **chapter 11**
- The T-test for the comparison of two parameters of mean / population proportion: construction of the test statistic, calculation of the p-value, calculation of the sample size - **chapter 14**

- Confidence interval on the mean and proportion of the population: calculation of the point estimate, construction of the confidence interval, determination of the sample size necessary to estimate the mean and proportion, calculation of the sample size - **chapter 28**

Prerequisites

Basic knowledge of descriptive statistics.

Teaching form

Specified in the syllabus of the course.

Textbook and teaching resource

- Howitt, D., & Cramer, D. (2020). Introduzione alla statistica per psicologia (7 ed.) (M. Benassi, R. Bolzani, & G. Rossi, a cura di). Pearson Italia. Ebook available at this link https://it.pearson.com/, standard book available at this link https://www.amazon.it/
- Software SPSS downloadable from https://www.unimib.it/servizi/service-desk/software-campus

Semester

Specified in the syllabus of the course.

Assessment method

Specified in the syllabus of the course.

Office hours

Specified in the syllabus of the course.