



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## SYLLABUS DEL CORSO

### Psicometria con Laboratorio Software 2 - 2

2223-2-E2401P132-T2

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#### Learning area

KNOWLEDGE ABOUT QUALITATIVE AND QUANTITATIVE RESEARCH METHODOLOGY

#### Learning objectives

*Knowledge and understanding*

- Statistics for correlation data
- Statistics for experimental data
- Simple and complex relationships among different types of variables
- Basics of measurement in psychology

*Applying knowledge and understanding*

- Ability to analyze data collected in different research designs
- Understanding and evaluating third-party statistics and their quality
- Estimating and understanding simple relationships among variables.
- Employing and evaluating different types of psychological measures
- Use of SPSS software and freeware

## **Contents**

An overview of several statistical techniques and methodological concepts is provided, giving the student the ability to collect and analyze data in a wide range of research situations. Univariate statistical techniques are presented, with emphasis on the interpretation of results. Fundamental concepts related with measurement in psychology are also discussed.

## **Detailed program**

Correlations, simple, partial and ordinal  
The chi square test as an example of comparing measures  
Regression, simple and multiple  
Significance of parameters  
Residuals in regression  
Theory of measurement  
Reliability and validity of psychological measures  
The self-calibrating scores as an alternative to Likert scales  
Classical factor analysis  
Categorical factor analysis  
Using SPSS

## **Prerequisites**

Basic knowledge presented in *Elementi di Psicometria* (probability theories, Random variables, basics about hypothesis verification)

## **Teaching methods**

lectures and hands-on teaching with a computer

## **Assessment methods**

written examination with multiple choice questions and short open ended questions

## **Textbooks and Reading Materials**

teacher's handout

**Sustainable Development Goals**

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