



UNIVERSITÀ DI PISA

STATISTICS

BARBARA PACINI

Anno accademico

2019/20

CdS

POLITICAL SCIENCE

Codice

551PP

CFU

6

Moduli
STATISTICA

Settore/i
SECS-S/01

Tipo
LEZIONI

Ore
42

Docente/i
BARBARA PACINI

Learning outcomes

Knowledge

Aim of the course is introducing students to statistical literacy, i.e. the ability to correctly understand and use data and statistical information. Nowadays statistical thinking is as necessary for efficient citizenship as the ability to read and write. A knowledge of basic statistical methods is useful in all work activities that require expertise in processing, management, analysis and interpretation of data relating to economic phenomena, business and social, in both the public and private sectors. The course supplies an introduction to the main methods and basic tools for a quantitative study of collective phenomena.

Assessment criteria of knowledge

A final exam is carried out to verify the acquired knowledge, as specified in the proper item below.

Skills

On successful completion of this course students will acquire:

- a) interpretation abilities and critical skills for evaluating statistical information (reading and understanding of articles on magazines and/or specialized publications),
- b) the capability to produce and analyse statistical data.

Assessment criteria of skills

During the final exam, the ability to apply the basic statistical methods learned during the course will be evaluated.

Behaviors

Students will be able to develop sensitivity to statistical reasoning and issues related to the use of statistical data (production, analysis and interpretation).

Assessment criteria of behaviors

Part of the final exam is designed to verify the sensitivity to statistical reasoning and general issues related to the use of statistical data.

Prerequisites

Logic and basic mathematics.

Syllabus

The course provides an introduction to the basic methods and tools for the quantitative study of collective phenomena. During the course the following topics will be discussed: Introduction to reasoning and statistical language. Descriptive statistics: tables and graphs; central tendency and dispersion; association between categorical variables, correlation and linear regression. Inferential statistics: probability theory; sampling distributions; estimation and confidence intervals; hypothesis testing (one sample and two samples).

Bibliography

Reference textbook:

David S. Moore, Basic Statistics, Second Edition, Apogee, 2013.

The detail of the topics discussed and other useful material for the preparation of the exam (in addition to the textbook) is made available on the Moodle platform.



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[Non-attending students info](#)

Course syllabus, reference bibliography and exam are the same for attending and non-attending students.

[Assessment methods](#)

The exam consists of a written test containing exercises to be solved and questions of theory, and related discussion. For the written test, only the use of handheld calculator and statistical tables is permitted. The exam is not passed if the written evidence is insufficient. Scores for each exercise and question are listed in the exam text.

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