



COURSE DESCRIPTION STATISTICS

SSD: STATISTICA (SECS-S/01)

DEGREE PROGRAMME: HOSPITALITY MANAGEMENT (P31)
ACADEMIC YEAR 2025/2026

COURSE DESCRIPTION

TEACHER: SARNACCHIARO PASQUALE
PHONE: 081-675010
EMAIL: sarnacch@unina.it

GENERAL INFORMATION ABOUT THE COURSE

INTEGRATED COURSE: U2629 - STATISTICS AND SOCIAL MEDIA DATA ANALYSIS
MODULE: U2630 - STATISTICS
TEACHING LANGUAGE: ITALIANO
CHANNEL:
YEAR OF THE DEGREE PROGRAMME: III
PERIOD IN WHICH THE COURSE IS DELIVERED: SEMESTER I
CFU: 5

REQUIRED PRELIMINARY COURSES

The course has no prerequisites

PREREQUISITES

For an easier handling of the course topics, the student should have a good command of the topics covered in the Mathematics course and a good aptitude for formalized analytical reasoning

LEARNING GOALS

The course aims at providing the main concepts and methods of statistical reasoning. In particular, it consists of an introduction to data analysis and a presentation of elementary notions of probability theory and statistical inference. The importance of statistics in various disciplines will also be emphasized.

EXPECTED LEARNING OUTCOMES (DUBLIN DESCRIPTORS)

Knowledge and understanding

At the end of the course, the student is expected to:

- understand the main statistical concepts
- being able to successfully attend intermediate level classes in statistics
- acquisition of the fundamental concepts of statistical reasoning.

Tools: lectures and exercises carried out by teachers.

Tests: practical and theoretical tests in written form.

In detail

At the end of the study of Teaching Unit 1, the student will have acquired the following knowledge and understanding skills: Methods of carrying out a statistical investigation and related phases, Organization of statistical data

At the end of the study of Teaching Unit 2, the student will know: the definition of the different statistical indices (such as Mean, Median, Mode, Deviance, Variance, Concentration, Heterogeneity), the properties of each individual statistical index, how to summarize the trend of a statistical phenomenon and draw appropriate conclusions.

At the end of the study of Teaching Unit 3, the student will know: the main techniques for the study of two statistical variables, the meaning of statistical association, correlation and regression in relation to two statistical variables.

At the end of the study of teaching unit 4, the student will know the basics of probability calculation and statistical inference, the theory of estimation and the verification of hypotheses

Applying knowledge and understanding

At the end of the course, the student is expected to:

- appropriately formalize a statistical problem in order to apply the methods taught during the course
- face a simple statistical problem and interpret the results of the statistical analysis
- present in written form the knowledge gained during the course
- being able to successfully attend intermediate level classes in statistics
- ability to formalize a statistical problem in order to use the appropriate statistical techniques presented during the course.

Tools: lectures and exercises carried out by teachers.

Tests: practical and theoretical tests in written form.

In detail

At the end of the first teaching unit, the student will know how to: prepare a small statistical survey, organize the collected data, display the collected data through graphic representations.

At the end of the second teaching unit, the student will know how to: use central position indices, apply variability and shape indices to the analysis of statistical phenomena.

At the end of the third Teaching Unit, the student will be able to: find the most suitable function to interpolate two statistical distributions, determine the degree of correlation and the regression model existing between two quantitative variables

At the end of the fourth Teaching Unit, the student will be able to: make a point estimate or interval estimate, test hypotheses made on the parameters of a population.

Other indicators

- Autonomy of judgment. Expected results: ability to deal, autonomously and consciously, with the analysis of a statistical problem and the interpretation of the results. Tools: lectures and exercises carried out by teachers. Tests: practical and theoretical tests in written form.
- Communication skills. Expected results: ability to communicate in written form the issues covered by the teaching. Tools: lectures and exercises carried out by teachers. Tests: practical and theoretical tests in written form.
- Learning ability. Expected results: ability to learn and develop more elaborate statistical and econometric models. Tools: lectures and exercises conducted by teachers. Tests: practical and theoretical tests in written form.

COURSE CONTENT/SYLLABUS

The topics of the course are as follows:

TEACHING UNIT N°1 - Statistical investigation and tabular and graphic representations What is statistics, types of statistics (descriptive and inferential). Phases of statistical investigation.

Statistical detection. Statistical characteristics. Measurement scales. Statistical distributions.

Simple and double-entry tables. Graphic representations for qualitative variables. Orthogram and Circular Diagram. Graphic representations for quantitative variables. Histogram and Leaf-branch.

TEACHING UNIT N°2 - Averages. Position, variability and shape parameters. General considerations and classification of averages. Arithmetic mean, Harmonic mean. Geometric mean. Choice of the mean. Position averages. Variability. Absolute variability indices. Relative variability indices. Mutability indices for a qualitative variables. Concentration study. Shape indices.

Skewness and Kurtosis.

TEACHING UNIT N°3 –Bivariate Statistics Statistical relations. association indices. The correlation ratio. Correlation and regression. Interdependence analysis

TEACHING UNIT N°4 –Statistical Inference Estimation Theory. Point and interval estimation; Hypothesis testing.

READINGS/BIBLIOGRAPHY

David M. Dietz, Christopher D. Barr, and Mine Cetinkaya-Rundel (2015). OpenIntro Statistics

TEACHING METHODS OF THE COURSE (OR MODULE)

The course is articulated in formal inclass lecture time, plus tutorials. The teaching is foreseen to be in presence and for *Interactive didactics* through online streaming via Team (see links published at the course page)

EXAMINATION/EVALUATION CRITERIA

a) Exam type

- Written
- Oral
- Project discussion

Other

In case of a written exam, questions refer to

Multiple choice answers

Open answers

Numerical exercises

b) Evaluation pattern

The final evaluation will be given by the sum of the individual tests and will be expressed in 30