

# ECONOMIA E FINANZA (LB06)

( - Università degli Studi)

## Insegnamento STATISTICAL SAMPLING AND INFERENCE

GenCod A004697

**Insegnamento** STATISTICAL SAMPLING AND INFERENCE **Anno di corso** 2

**Insegnamento in inglese** STATISTICAL SAMPLING AND INFERENCE **Lingua** INGLESE

**Settore disciplinare** SECS-S/01 **Percorso** PERCORSO COMUNE

**Corso di studi di riferimento** ECONOMIA E FINANZA **Docente** Sandra DE IACO

**Tipo corso di studi** Laurea **Sede**

**Crediti** 8.0 **Periodo** Secondo Semestre

**Ripartizione oraria** Ore Attività frontale: 64.0 **Tipo esame** Orale

**Per immatricolati nel** 2019/2020 **Valutazione** Voto Finale

**Erogato nel** 2020/2021 **Orario dell'insegnamento**  
<https://easyroom.unisalento.it/Orario>

### BREVE DESCRIZIONE DEL CORSO

Statistical Sampling and Inference course provides the theoretical basis for dealing with inferential problems. An introduction to the analysis of spatial data is given.

### PREREQUISITI

Elements of descriptive statistics and linear algebra

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## OBIETTIVI FORMATIVI

The course aims to provide

- some elements of sampling theory
- methodologies and tools of statistical inference in order to analyze data coming from a sample survey
- elements of geostatistical analysis

### **Expected learning outcomes according to Dublin Descriptors:**

#### Knowledge and understanding:

- Acquisition of the tools of Inferential Statistics for the estimation of a large variety of economic and financial aspects, by observing a sample extracted from the reference population.
- Knowledge of inductive methods of Inferential Statistics for identifying, estimating and testing hypothesis on the parameters of statistical models to be used for forecasting and decision-making purposes.
- Knowledge of statistical methods and procedures for exploratory analyses of univariate and multivariate data.

#### Applying knowledge and understanding

- Ability to explain economic and financial phenomena through statistical data analysis and by constructing suitable models, also by means of advanced calculation tools and sophisticated algorithms.
- Ability to plan a sample statistical survey.
- Presentation and detailed interpretation of inferential results in economic and financial contexts.

#### Making judgements

- Ability to translate a knowledge requirement into statistical terms in the study of economic and financial dynamics.
- Ability to use the results of data analysis to formulate hypotheses, to obtain strategic orientations, to take decisions in conditions of uncertainty.
- Ability to evaluate the results of a survey from the ethical and deontological point of view, in order to avoid inappropriate use of statistical information.

#### Communication skills

- Ability to explain methods, results and interpretations of statistical results, also with the aid of audiovisual techniques, both to experts and specialists in statistical fields.
- Ability to define and explain the statistical purposes of a study when talking to non-expert people.
- Ability to communicate the results of statistical analyses with appropriate technical language.

#### Learning skills

Ability to integrate knowledge and expertise in different contexts, by following the evolution of the discipline.

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## METODI DIDATTICI

In-person lectures on theoretical and practical aspects with the use of audiovisual supports. Due to Covid-emergency, lectures might be held remotely on the Microsoft Teams platform.

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## MODALITA' D'ESAME

Written and oral examination.

### **In-person examination**

The examination consists of a 60 minutes -written test, an oral test accessible after passing the written exam and a discussion of an essay previously sent by email to the teacher.

### **Online examination (due to COVID-19 medical emergency)**

Oral examinations will be held remotely on the Microsoft Teams platform. The oral examination concerns theoretical aspects, exercises and discussion of an essay previously sent by email to the teacher.

After passing the examination, a report is drawn up, signed by the President and the members of the committee, as well as by the student. In the case of oral examination, the report is digitally signed by the President of the committee.

The examination is passed when a mark of at least 18/30 (with possible award of the honors/laude) is given. Also the corresponding ECTS (European Credit Transfer System) are assigned. The student passing the examination acquires notions which are recognized according to the Dublin descriptors.

"The disabled student and/or student with learning disability, who intends to take advantage of an individualized intervention to carry out the examination have to contact the Disabled Integration Office of the University of Salento (contact reference person: [paola.martino@unisalento.it](mailto:paola.martino@unisalento.it)). Program, texts and examination methods are the same for both students regularly attending and not regularly attending the lessons.

### **Examination board**

De Iaco Sandra (president); Posa Donato (member); Maggio Sabrina (member); Palma Monica (member), Pellegrino Daniela (member); Claudia Cappello (member); Giuseppina Giungato (member), Distefano Veronica (member)

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## APPELLI D'ESAME

<https://www.economia.unisalento.it/536>

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## ALTRE INFORMAZIONI UTILI

- The attendance of lessons, although not mandatory, is highly recommended.

-Examination booking on the web site [studenti.unisalento.it](http://studenti.unisalento.it) has to be verified by printing the corresponding receipt.

In case of technical problems, the student has to contact the teacher at least 7 days before the date of examination.

-Requests for postponing an examination, to be sent by e-mail to the teacher, are considered only if they are received within two days before the date of examination. Alternatively, the postponement of the exam can be requested only during the examination. Postponement are possible only within twelve months.

The online exam will take place following the guidelines provided by the DR 197/2020 and published on the web site [www.unisalento.it](http://www.unisalento.it)

After the examination booking, students are invited to register on the Microsoft Teams platform, according to the indications published on the page <https://www.unisalento.it/lezioni-online>

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## PROGRAMMA ESTESO

Data and Statistics. Descriptive Statistics: Data Organization, Presentation and Numerical Measures. Introduction to Probability. Discrete Probability Distributions. Continuous Probability Distributions. Sampling and Sampling Distributions. Interval Estimation. Hypothesis Tests. Statistical Inferences About Means and Proportions. Inferences About Population Variances. Geostatistics.

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## TESTI DI RIFERIMENTO

-Anderson, Sweeney, Williams. 2008, X Ed., Statistics For Business And Economics, Thomson South-Western [Chapters 1-3 (required basic notion), Chapters 4-10, Chapter 14  
-Bhattacharya, G. K., Johnson, R. A., 1996, III Ed., Statistics - Principles and methods, J. Wiley & Sons, New York.  
-Dudewicz, E. J., Mishra, S. N., 1988, Modern mathematical statistics, J. Wiley & Sons, New York.  
-Edward H. Isaaks, R. M. Srivastava, 1989, An introduction to Applied Geostatistics, Oxford University Press