

General information		
Academic subject	Statistics (I.C. Mathematics and Statistics)	
Degree course	Food Science and Technology (L26)	
Academic Year	First	
European Credit Transfer and Accumulation System (ECTS)	3 ECTS	
Language	Italian	
Academic calendar (starting and ending date)	September 26 th , 2022 – January 20 th , 2023	
Attendance	No Compulsory	

Professor/ Lecturer	
Name and Surname	Viviana D'Addosio
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Telephone	
Department and address	DiSSPA
Virtual headquarters	Microsoft Teams
Tutoring (time and day)	To be agreed with the students

Syllabus	
Learning Objectives	The course aims to provide the theoretical knowledge, operational skills and practical skills to detect, manage and process qualitative and quantitative data in order to describe and interpret real phenomena such as environmental, demographic-social and bioscience related phenomena.
Course prerequisites	Basic mathematics knowledge (functions, integrals, summations)
Contents	Chapter 1. Introduction to Statistics Chapter 2. Detection and classification of data. Chapter 3. Various types of statistical tables Chapter 4. Graphic representations Chapter 5. Statistical Reports Chapter 6. Medium Chapter 7. Variability: Dispersion and Inequality Measures Chapter 8. Asymmetry, normal curve and abnormality Chapter 9. Analytical representation of distributions Chapter 11. General concepts about internal relationships between the components of a double statistical variable Chapter 12. Analysis of dependence Chapter 13. Analysis of interdependence Chapter 15. Analysis of statistical mutable
Books and bibliography	<ul style="list-style-type: none"> Notes of the lectures G. GIRONE-C. CROCCETTA-A. MASSARI, "Statistica", Bari, Cacucci Editore, 2019 P. PERCHINUNNO- V. C. DE NICOLO', "Esercizi di Statistica", CLEUP, 2010
Additional materials	Notes, slides and other bibliographic materials will be furnished during the course

Work schedule			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Out-of-class study hours/Self-study hours
Hours			

75	16	14	45
ECTS			
3	2	1	
Teaching strategy	<p>Frontal lessons, exercises cases of study, and small surveys by building and proposing questionnaires. Lectures will be presented by means of Power Point presentations.</p> <p>Lecture notes and educational supplies will be provided by means of a mailing list or online platforms (Microsoft Teams).</p>		
Expected learning outcomes	<p>The expected learning outcomes, in terms of both knowledge and skills, are provided in Annex A of the Academic Regulations of the Degree in Food Science and Technology (expressed through the European Descriptors of the qualification)</p>		
Knowledge and understanding on:	<ul style="list-style-type: none"> ○ Knowledge of the main synthetic measures of series and distributions data ○ Knowledge of normal distribution and measures of dependence and interdependence between quantitative and qualitative characters ○ Basic knowledge of statistical methodologies for the analysis and interpretation of environmental, physical, chemical, territorial, food and technological phenomena 		
Applying knowledge and understanding on:	<ul style="list-style-type: none"> ○ Ability to apply statistical methodologies to analyze data and interpret them, developing deductions and reasoning about them 		
Soft skills	<ul style="list-style-type: none"> ● <i>Making informed judgments and choices</i> <ul style="list-style-type: none"> ○ Ability to perform statistical analysis, collect data and interpret them with the main synthesis and variability measures to implement actions to improve the quality and efficiency of food production and any other related activity, including in terms of environmental sustainability and eco- compatibility ● <i>Communicating knowledge and understanding</i> <ul style="list-style-type: none"> ○ Ability to describe the phenomena studied and to interpret the obtained statistical results ● <i>Capacities to continue learning</i> <ul style="list-style-type: none"> ○ Ability to expand and update their knowledge in the field of statistics <p>The expected learning outcomes, in terms of both knowledge and skills, are provided in Annex A of the Academic Regulations of the Degree in Food Science and Technology (expressed through the European Descriptors of the qualification)</p>		
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Assessment and feedback	
Methods of assessment	<p>There are two tests for students enrolled in the course year: one for basic statistics (average, variation, form of distribution) and one for the relationship between two qualitative or quantitative characters.</p> <p>The exam consists of an oral dissertation on the topics developed during the theoretical and theoretical-practical lectures in the classroom and in the laboratory/production plants, as reported in the Academic Regulations for the Bachelor Degree in Food Science and Technology (article 9) and in the study plan (Annex A).</p>

	<p>Students attending at the lectures may have a middle-term preliminary exam, consisting of a written test, relative to the first part of the program, which will concur to the final evaluation and will be considered valid for a year.</p> <p>The evaluation of the preparation of the student occurs on the basis of established criteria, as detailed in Annex B of the Academic Regulations for the Bachelor Degree in Food Science and Technology.</p> <p>Non-Italian students may be examined in English language, according to the aforesaid procedures.</p>
Evaluation criteria	<p><i>Knowledge and understanding</i></p> <ul style="list-style-type: none"> ○ Know the statistical methods for the analysis and interpretation of phenomena, starting from the data capture and acquisition (definition of units, characters, mode) ○ data processing (construction of tables and graphic representations) ○ correctly interpret from a statistical standpoint the phenomena under study (synthesis, variability, form distribution and r relationship between characters) <p><i>Applying knowledge and understanding</i></p> <ul style="list-style-type: none"> ○ Describe the statistical methodologies to apply for analyzing data and interpreting them, developing deductions and reasoning about them <p><i>Autonomy of judgment</i></p> <ul style="list-style-type: none"> ○ Introduce reasonable hypotheses to improve the quality and efficiency of food production and other related activities, including in terms of environmental sustainability and eco-compatibility <p><i>Communicating knowledge and understanding</i></p> <ul style="list-style-type: none"> ○ Describe the phenomena studied and interpret the statistical results obtained by showing exposure capabilities and presentation and interpretation skills <p><i>Communication skills</i></p> <ul style="list-style-type: none"> ○ The student will be evaluated considering the use of appropriate technical language. <p><i>Capacities to continue learning</i></p> <ul style="list-style-type: none"> ○ Thinking an approach to employ acquired knowledge through specific statistical software
Criteria for assessment and attribution of the final mark	<p>The evaluation criteria that contribute to the attribution of the final mark will be: knowledge and understanding, the ability to apply knowledge, autonomy of judgment, i.e. the ability to criticize and formulate judgments, communication skills</p>
Additional information	