

General information	
Academic subject	Control of microbiological risks in food (I.C. Food Safety, Nutrition and Nutrition Education)
Degree course	<i>Food Science and Technology (L26)</i>
Academic Year	<i>Third</i>
European Credit Transfer and Accumulation System (ECTS)	3 ECTS
Language	<i>Italian</i>
Academic calendar (starting and ending date)	<i>September 26th, 2022 – January 20th, 2023</i>
Attendance	<i>No Compulsory</i>

Professor/ Lecturer	
Name and Surname	Giuseppe Celano
E-mail	giuseppe.celano@uniba.it
Telephone	0805442950
Department and address	DiSSPA
Virtual headquarters	Microsoft Teams
Tutoring (time and day)	Monday-Friday 9.00-16.00

Syllabus	
Learning Objectives	<i>The course aims to make the student acquire knowledge and skills related to the process of analyzing the microbiological risk of food, to the methods for the enumeration of pathogenic microorganisms in food and for the determination of metabolites originating from the microbial in food. The student will acquire knowledge related to the prevention of microbial deterioration in food of animal and vegetable origin.</i>
Course prerequisites	<i>Knowledge of basic microbiology and microbiology applied to food and beverages</i>
Contents	<ul style="list-style-type: none"> • <i>Microorganisms indicators of the quality and healthiness of food</i> • <i>Classification of food borne diseases</i> • <i>Distribution, prevalence, and environmental adaptation of the main microorganisms responsible for food borne diseases</i>
Books and bibliography	<ol style="list-style-type: none"> 1. <i>Madigan, M.T., J.M. Martinko and J. Parker. Brock – Biology of Microorganisms. 8.a ed. London: Prentice & Hall International. 1997.</i> 2. <i>Jay, J.M., M.J. Loessner, D.A. Golden. Modern Food Microbiology. 7th ed. Springer Science+Business Media, LLC. 2005.</i> 3. <i>ICMSF. Microorganisms in foods 6 – Microbial Ecology of Food Commodities. 2.a ed. New York: Kluwer Academic/Plenum Publishers. 2005.</i>
Additional materials	<i>Notes, slides and other bibliographic materials will be furnished during the course</i>

Work schedule			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Out-of-class study hours/Self-study hours
Hours			
75	20	7	48
ECTS			
3	2.5	0.5	

Teaching strategy	<p>Lectures will be presented through PC assisted tools (PowerPoint, video). Field and laboratory classes, reading of regulations will be experienced.</p> <p>Lecture notes and educational supplies will be provided by means of online platforms</p> <p>Projection of educational videos and practical classes (ranging from a total of 5 to 10 hours) consisting in the discussion of cases-study are also included as supplementary teaching method. A dedicated mailing list will be created for interaction with students.</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 about distribution, prevalence and environmental adaptation of the main food-born pathogenic microorganisms
Applying knowledge and understanding on:	<ul style="list-style-type: none"> ● Prevention of food-born diseases
Soft skills	<p><i>Making informed judgements and choices</i></p> <ul style="list-style-type: none"> ● To acquire information needed for actions aiming to improve food salubrity <p><i>Communicating knowledge and understanding</i></p> <ul style="list-style-type: none"> ● Ability to describe general and eco-physiological traits, contamination pathways and modes of prevention of the main food-born pathogenic microorganisms <p><i>Capacities to continue learning</i></p> <ul style="list-style-type: none"> ● Ability to improve knowledge for food safety issues, from production to consumption
<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>	

Assessment and feedback	
Methods of assessment	<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's degree in food science and Technology.</p> <p>The foreign student's profit test can be done in English in the way described above.</p>
Evaluation criteria	<p><i>Knowledge and understanding</i></p> <ul style="list-style-type: none"> ● To describe distribution, prevalence and environmental adaptation of the main food-born pathogenic microorganisms <p><i>Applying knowledge and understanding</i></p> <ul style="list-style-type: none"> ● To describe how a food technologist may act in a prevention programme of food-born diseases <p><i>Making informed judgements and choices</i></p> <ul style="list-style-type: none"> ● To describe how to act for improving food salubrity

	<p><i>Communicating knowledge and understanding</i></p> <ul style="list-style-type: none"> • <i>To describe general and eco-physiological traits, contamination pathways and modes of prevention of the main food-born pathogenic microorganisms</i> <p><i>Capacities to continue learning</i></p> <ul style="list-style-type: none"> ○ <i>To describe the means for targeting personal knowledges for solving new food safety issues with particular regard to food contamination paths and practices aimed at reducing the risk of contracting infections, poisoning and toxic infections that can occur following ingestion of food</i>
<p>Criteria for assessment and attribution of the final mark</p>	<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>
<p>Additional information</p>	