

General information	
Academic subject	Post-harvest pathology (I.C. Food entomology and post-harvest pathology)
Degree course	<i>Food Science and Technology (LM70)</i>
Academic Year	<i>Second</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	Donato Gerin
E-mail	donato.gerin@uniba.it
Telephone	0805442910
Department and address	<i>DiSSPA, Amendola street 126/A Bari</i>
Virtual headquarters	<i>Microsoft Teams</i>
Tutoring (time and day)	Monday-Friday 9.00-16.00

Syllabus	
Learning Objectives	<i>The student will acquire knowledge and skills on the abiotic and biotic stress of postharvest and those related to their integrated management.</i>
Course prerequisites	<i>Knowledge of plant biology</i>
Contents	<p>Frontal teaching and group activities</p> <ul style="list-style-type: none"> • Introduction to the discipline; importance and study of post-harvest diseases; conservation, food safety and product losses in the post-harvest phases. • Influence of environmental and nutritional factors acting on microorganisms causing post-harvest alteration. • Genetic resistance, cultivation techniques and post-harvest interventions to reduce the contamination of fruits and vegetables. Chemical, physical and biological means and their methods of application for integrated protection from post-harvest diseases. • Innovative means for the protection against diseases occurring in the post-harvest. • Main post-harvest diseases of citrus fruits, grapes, stone fruits, pome fruits. <p>Exercises</p> <ul style="list-style-type: none"> • Observation of symptoms on post-harvest disease products • Techniques for diagnosing post-harvest disease agents. • Development of integrated protection strategies for the protection from diseases in the post-harvest.
Books and bibliography	<ul style="list-style-type: none"> ○ De Cicco V., Bertolini P., Salerno M.G. (2009) <i>Patologia Postraccolta dei Prodotti Vegetali</i>, Piccin Editore. ○ Notes from the lessons and didactic material distributed during the course. <p>Bibliographic material</p> <ul style="list-style-type: none"> ○ Vannacci et al., (2021). <i>Patologia vegetale</i>. Editore Edises. ○ Belli G. (2011). <i>Elementi di patologia vegetale</i>. Piccin-Nuova Libreria. Seconda Edizione. ○ Agrios G.N. (2005) <i>Plant Pathology</i> (fifth edition), Academic Press(USA). ○ arkai-Golan R. (2001) <i>Postharvest Diseases of Fruits andVegetables: development</i>

	<p>nd control, Elsevier, Londra.</p> <p>ov Prusky, Gullino M. L. (2014). Post-harvest Pathology, Springer.</p> <p>nowdon A.L. (1990) A Color Atlas of Post-harvest diseases & disorder of fruit and vegetables, Volume 1 (General introduction and fruits) and Volume 2 (Vegetables). Wolfe Scientific ed., London.</p>
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	16	14	45
ECTS			
3	2	1	
Teaching strategy		The topics of the course will be treated with the help of Power Point presentations, websites and multimedia material, paper documents prepared by the teacher, through case studies and classroom or laboratory exercises and educational visits.	
Expected learning outcomes		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)	
Knowledge and understanding on:		<ul style="list-style-type: none"> ○ Knowledge about the general aspects of post-harvest pathology ○ Knowledge about the post-harvest disease management strategies 	
Applying knowledge and understanding on:		<ul style="list-style-type: none"> ○ Ability to recognize the main post-harvest biotic and abiotic diseases. ○ Ability to define appropriate management strategies for post-harvest alterations 	
Soft skills		<ul style="list-style-type: none"> • <i>Making informed judgments and choices</i> <ul style="list-style-type: none"> ○ Ability to describe reasonable hypotheses for the prevention and control of major post-harvest diseases ○ Ability to adapt general concepts to specific product contexts presented as case studies. • <i>Communicating knowledge and understanding</i> <ul style="list-style-type: none"> ○ Being able to expose in an exhaustive way, with appropriateness of terms, richness of conceptual links and examples, the main problems associated with post-harvest alterations and the factors that condition their harmfulness and possible management methods. <i>Capacities to continue learning</i> • <i>Ability to learn</i> <ul style="list-style-type: none"> ○ To be able to apply the acquired knowledge and skills to solve problems in different contexts or operational. 	
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).			

Assessment and feedback	
Methods of assessment	For students enrolled in the course year in which the teaching is carried out, an oral exemption test will be assessed with a mark out of thirty on the topics developed during the theoretical and theoretical-practical lesson hours, up to

	<p>the suspension of the teaching activity. The outcome of this test contributes to the evaluation of the final exam and is valid for one academic year.</p> <p>The exam consists of an oral test on the topics treated during the theoretical and theoretical-practical lessons in the classroom and in the laboratory, as reported in the Academic Regulations for the master's degree in Food Science and Technology.</p> <p>For students who have taken the exemption test, the evaluation of the profitable exam is expressed as the average between the mark obtained on the exemption and the profitable exam.</p> <p>The assessment of the student's preparation takes place on the basis of pre-established criteria, as detailed in Annex A of the Degree Course Academic Regulations.</p> <p>For foreign students, the oral exam can be held in English.</p>
<p>Evaluation criteria</p>	<ul style="list-style-type: none"> • <i>Knowledge and understanding</i> <ul style="list-style-type: none"> ○ Ability to describe the general aspects of post-harvest pathology and post-harvest disease management strategies. • <i>Applied knowledge and understanding</i> <ul style="list-style-type: none"> ○ Ability to recognize the main post-harvest biotic and abiotic diseases. ○ Ability to define appropriate management strategies for post-harvest alterations • <i>Autonomy of judgment</i> <ul style="list-style-type: none"> ○ Ability to describe reasonable hypotheses for the prevention and control of major post-harvest diseases ○ Ability to adapt general concepts to specific product contexts presented as case studies. • <i>Communication skills</i> <ul style="list-style-type: none"> ○ Being able to expose in an exhaustive way, with appropriateness of terms, richness of conceptual links and examples, the main problems associated with post-harvest alterations and the factors that condition their harmfulness and possible management methods. • <i>Ability to learn</i> <ul style="list-style-type: none"> ○ To be able to apply the acquired knowledge and skills to solve problems in different contexts or operational.
<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>	