General Information	
Academic subject	Biotic and abiotic diseases (I.C. Pests and diseases of foods)
Degree course	Bachelor programme: Food Science and Technology
ECTS credits	6 ECTS
Compulsory attendance	No
Teaching language	Italian

Subject teacher	Name Surname	Mail address	SSD
	Antonio Ippolito	antonio.ippolito@uniba.it	AGR/12

ECTS credits details		
Basic teaching activities	4 ECTS Lecture	2 ECTS Practice

Class schedule	
Period	II semester
Course year	Second
Type of class	Lecture- workshops

Time management	
Hours	150
In-class study hours	60
Out-of-class study hours	90

Academic calendar	
Class begins	March 1st, 2022
Class ends	June 17th, 2022

Syllabus	
Prerequisites/requirements	
Expected learning outcomes	*Knowledge and understanding skills* ○ Recognize the biotic and abiotic diseases and causal agents affecting vegetable products for fresh consumption and processing; ○ Apply strategies, means and methods of control in order of preserving the quality of produce; *Applying knowledge and understanding* ○ Identify biotic and abiotic diseases and set up control measure in function of preserving the quality of products *Making informed judgements and choices* ○ Ability to acquire information and identify appropriate solutions to control the development of biotic and abiotic diseases of products for fresh consumption and processing *Communicating knowledge and understanding* ○ Ability to describe in oral and written form biotic and abiotic diseases that reduce the quality of the products, the predisposing factors and the means for controlling their development. *Capacities to continue learning* ○ Ability to deepen and update the knowledge on the causal agents of biotic and abiotic diseases of products for fresh consumption and processing 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).

Contents	Introduction to the discipline; Damage and importance of diseases; Concept of disease; Classification of diseases; Symptomatology and effects of diseases on physiological functions; Host-parasite relationships; Epidemiology and diagnosis. Principles of controlling diseases of crops and products in pre- and post-harvest, through legislative measures, interventions on the environment, host and pathogen; fungicides; Biological and integrated control (IPM). Non-parasitic diseases: general outline of major diseases and damage from abiotic agents also in a controlled environment. Fungal and fungal-like diseases: general and major diseases within the various systematic groups. Bacterial Diseases: General aspects and major diseases. Viruses and virus-like diseases: general aspects and major diseases.
Course program	
Reference books	• Lecturer's note of the course and other teaching material (monographs, PDF files, etc.) distributed throughout the course. • "Patologia vegetale" – Autori vari, Edises Editore, 2021. • "Patologia Postraccolta dei Prodotti Vegetali" – V. De Cicco, P. Bertolini, M.G. Salerno (Ed.) Piccin Editore, Bologna 2009. For further information: • Agrios G.N. (2005) Plant Pathology (fifth edition), Academic Press (USA); • W. K. Purves, D. Sadava, G. H. Orians, H. C. Heller (2009) Biologia: L'evoluzione della diversità (parteIV), Zanichelli, Bologna; • Snowdon A.L. A colour atlas of post-harvest diseases & disorders of fruit & vegetables. Vol. 1 e 2, Wolfe Scientific ed., London, 1990.
Notes	
Teaching methods	The course will be dealt with PowerPoint presentations, video clips, mailing lists, edmodo, dropbox, on-line consultations of internet sites during lessons and/or practicum, case-study on samples of infected material, classroom and/or laboratory practicum, visits to farms and packinghouses.
Evaluation methods	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). 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. 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. Non-Italian students may be examined in English language, according to the aforesaid procedures.
Evaluation criteria	*Knowledge and understanding* o Describe the biology of pathogens, epidemiology, control means and more specifically the major diseases of plant products taught during the course *Applying knowledge and understanding*

	○ Describe diseases of biotic and abiotic origin and set up of control programs in order to maintain the quality of plant products. *Making informed judgements and choices* ○ Provide reasonable hypotheses for the prevention and control of major diseases of plant products presented as case studies *Communicating knowledge and understanding* ○ Describe the processes underlying disease development and control methods analyzed in the case study *Capacities to continue learning* ○ Introduce an Integrated Pest Management that takes into account intrinsic and extrinsic predisposing factors in order to reduce the damages to plant product presented as a case study
Receiving times	From Monday to Friday, morning or afternoon, by appointment agreed by e-mail or by phone. Tutoring can also be done electronically.