

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
	<b>Antonio Ippolito</b>	<a href="mailto:antonio.ippolito@uniba.it">antonio.ippolito@uniba.it</a>	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	February 25 <sup>th</sup> , 2019
Class ends	June 7 <sup>th</sup> , 2019

Syllabus	
Prerequisites/requirements	
Expected learning outcomes	<p><i>Knowledge and understanding skills</i></p> <ul style="list-style-type: none"> <li>○ Recognize the biotic and abiotic diseases and causal agents affecting vegetable products for fresh consumption and processing;</li> <li>○ Apply strategies, means and methods of control in order of preserving the quality of produce;</li> </ul> <p><i>Applying knowledge and understanding</i></p> <ul style="list-style-type: none"> <li>○ Identify biotic and abiotic diseases and set up control measure in function of preserving the quality of products</li> </ul> <p><i>Making informed judgements and choices</i></p> <ul style="list-style-type: none"> <li>○ Ability to acquire information and identify appropriate solutions to control the development of biotic and abiotic diseases of products for fresh consumption and processing</li> </ul> <p><i>Communicating knowledge and understanding</i></p> <ul style="list-style-type: none"> <li>○ 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.</li> </ul> <p><i>Capacities to continue learning</i></p> <ul style="list-style-type: none"> <li>○ Ability to deepen and update the knowledge on the causal agents of biotic and abiotic diseases of products for fresh consumption and processing</li> </ul> <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>
Contents	Introduction to the discipline; Damage and importance of diseases;

	<p>Concept of disease; Classification of diseases; Symptomatology and effects of diseases on physiological functions; Host-parasite relationships; Epidemiology and diagnosis.</p> <p>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).</p> <p>Non-parasitic diseases: general outline of major diseases and damage from abiotic agents also in a controlled environment.</p> <p>Fungal and fungal-like diseases: general and major diseases within the various systematic groups.</p> <p>Bacterial Diseases: General aspects and major diseases.</p> <p>Viruses and virus-like diseases: general aspects and major diseases.</p>
<b>Course program</b>	
Reference books	<ul style="list-style-type: none"> <li>• Lecturer's note of the course and other teaching material (monographs, PDF files, etc.) distributed throughout the course.</li> <li>• "Elementi di Patologia Vegetale"- G. Belli (ed.), Piccin Editore, Bologna 2007.</li> <li>• "Patologia Postraccolta dei Prodotti Vegetali" – V. De Cicco, P. Bertolini, M.G. Salerno (Ed.) Piccin Editore, Bologna 2009.</li> </ul> <p>For further information:</p> <ul style="list-style-type: none"> <li>• Agrios G.N. (2005) Plant Pathology (fifth edition), Academic Press (USA);</li> <li>• W. K. Purves, D. Sadava, G. H. Orians, H. C. Heller (2009) Biologia: L'evoluzione della diversità (parteIV), Zanichelli, Bologna;</li> <li>• Snowdon A.L. A colour atlas of post-harvest diseases &amp; disorders of fruit &amp; vegetables. Vol. 1 e 2, Wolfe Scientific ed., London, 1990.</li> </ul>
Notes	
Teaching methods	<p>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.</p>
Evaluation methods	<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"> <li>○ Describe the biology of pathogens, epidemiology, control means and more specifically the major diseases of plant products taught during the course</li> </ul> <p><i>Applying knowledge and understanding</i></p>

	<ul style="list-style-type: none"> <li>○ Describe diseases of biotic and abiotic origin and set up of control programs in order to maintain the quality of plant products.</li> </ul> <p><i>Making informed judgements and choices</i></p> <ul style="list-style-type: none"> <li>○ Provide reasonable hypotheses for the prevention and control of major diseases of plant products presented as case studies</li> </ul> <p><i>Communicating knowledge and understanding</i></p> <ul style="list-style-type: none"> <li>○ Describe the processes underlying disease development and control methods analyzed in the case study</li> </ul> <p><i>Capacities to continue learning</i></p> <ul style="list-style-type: none"> <li>○ 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</li> </ul>
Receiving times	from monday to friday, in the morning or afternoon previous appointment by e-mail or telephone