



UNIVERSITÀ
DEGLI STUDI DI BARI
ALDO MORO

DIPARTIMENTO DI
SCIENZE DEL SUOLO, DELLA
PIANTA E DEGLI ALIMENTI

LAUREA MAGISTRALE IN
MEDICINA DELLE PIANTE
INTERNATIONAL JOINT MASTER DEGREE IN
PLANT MEDICINE



General information	
Academic subject	Fruit trees (Integrated Course: Plant production)
Degree course	Master's Degree in Plant Medicine (L-69)
Academic Year	2022/2023
European Credit Transfer and Accumulation System (ECTS)	6
Language	Italian
Academic calendar (starting and ending date)	I semester (26 September 2022 – 20 January 2023)
Attendance	no

Professor/ Lecturer	
Name and Surname	Giuseppe Ferrara
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Telephone	080/5442979
Department and address	DISSPA-Fruit tree unit 5 th floor
Virtual headquarters	Teams
Tutoring (time and day)	Every day from 8.30 to 13.30 pm according to a scheduled appointment. Tutoring could be also done on online platforms (i.e., Teams).

Syllabus	
Learning Objectives	At the end of the course the students will acquire the basic knowledge about the cultivation and use of fruit tree species in the Mediterranean basin.
Course prerequisites	Fruit Tree Science
Contents	<p>The course aims to provide knowledge on the cultivation of fruit tree species typical of a Mediterranean climate, with particular regard to: origin, importance and diffusion in the world, systematic classification, botanical characteristics, pedoclimatic requirements, propagation and rootstocks, physiology of fruiting, varietal choices, planting, trellising and pruning, soil management, irrigation (application of sensors), nutrition, ripening, harvesting, product destination, fruit storage and nutritional aspects. Knowledge will be provided on the use of new technologies (smart technologies) towards a 4.0 management of the orchard/vineyard.</p> <p>The main species of the Mediterranean area will be treated (vine, olive, almond, apricot, cherry, peach, plum, citrus, apple, pear) and some of those considered 'minor' among the ones here listed: quince, pecan, pistachio, kiwi, fig, pomegranate, carob, mulberry, persimmon, loquat, walnut, hazel, sorb, medlar, cornelian cherry, azarole.</p>
Books and bibliography	<ul style="list-style-type: none"> ✓ Appunti dalle lezioni e materiale didattico distribuito durante il corso. ✓ AAVV - Arboricoltura speciale. A cura di A. Gentile, P. Inglese, M. Tagliavini. Edagricole. 2022. ✓ AAVV – Frutticoltura speciale. Reda (1991). ✓ Boselli, M., et al. – Progressi in Viticoltura. Edises (2016). ✓ Collana Colture & Cultura, Bayer Crop Science (http://www.colturaecultura.it/download). ✓ Liste varietali (http://plantgest.imagelinenetwork.com/liste-varietali.cfm). ✓ Norman F. Childers, Modern Fruit Science. Horticultural Publications, 1995.
Additional materials	<ul style="list-style-type: none"> • Scientific articles useful for the oral presentation.

Work schedule	



Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
Hours			
150	32	28	90
ECTS			
6	4	2	
Teaching strategy			
	The topics of the course will be presented with Power Point presentations, videos, classroom or laboratory/field activities, case studies, webinars, workshops. The e-learning modality can be used in some situations (disabled students, foreigners, workers, athletes, etc.) using online platforms such as Teams.		
Expected learning outcomes			
Knowledge and understanding on:	<ul style="list-style-type: none"> ○ Knowledge of the origin and spread of Mediterranean fruit tree species. ○ Ability to understand the pedoclimatic requirements of the different species/varieties/rootstocks. ○ Basic knowledge of cultivation techniques applied to different fruit tree species. ○ Knowledge of harvesting, use of the product and nutritional characteristics of the different fruit tree species. 		
Applying knowledge and understanding on:	<ul style="list-style-type: none"> ○ Understanding the specific needs of the different fruit tree species and evaluate them for the different environments and uses by using available data (scientific texts, experimental trials, etc.). ○ Ability to know and apply the management techniques (rootstocks, variety choice, trellising, etc.) for the various fruit tree species. ○ Ability to evaluate the different possible uses of the product to optimize the productive and economic aspects. 		
Soft skills	<ul style="list-style-type: none"> ● <i>Autonomy of judgment</i> <ul style="list-style-type: none"> ○ Ability to correctly suggest the species/varieties/rootstocks in the different pedoclimatic conditions. ○ Ability to technically evaluate the use of the cultivation techniques for the different fruit tree species also with the support of modern technologies (agriculture 4.0). ● <i>Communication skills</i> <ul style="list-style-type: none"> ○ Expose the skills acquired with a language appropriate to the discipline. ○ Ability to organize the acquired knowledge in the form of a presentation for different purposes. ● <i>Ability to learn</i> <ul style="list-style-type: none"> ○ Ability to extend the knowledge acquired during the course through the reading and understanding of scientific and technical texts, webinar, workshops, technical meetings, etc. 		
Assessment and feedback			
Methods of assessment	For students enrolled in the year of the course in which the teaching is carried out, a mid-term test is required. The mid-term test consists of an oral test on the topics developed during the lesson hours in the classroom and in the laboratory/field. The mid-term test will be assessed out of thirty and in the event of a positive outcome, in the subsequent oral test (second part) the exam will focus on the topics developed during the lesson hours in the classroom and in the		



	<p>laboratory/field until the end of the course. 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 developed during the lesson hours in the classroom and in the laboratory/field, as reported in the Didactic Regulations of the Master's Degree in Plant Medicine (Article 9) and in the study plan (Annex A). In particular, the student will give an oral presentation on a topic related to the course which will be successively discussed with 3 questions on other topics of the course.</p> <p>For foreign students, the examination procedure consists of an oral test in English on the topics covered during class hours.</p>
<p>Evaluation criteria</p>	<ul style="list-style-type: none"> • <i>Knowledge and understanding</i> <ul style="list-style-type: none"> ○ Knowledge of the main morpho-physiological characteristics of Mediterranean fruit tree species. ○ Knowledge of the cultivation techniques applied to the different fruit tree species. ○ Understanding the primary and alternative uses of the different fruit products. • <i>Applied knowledge and understanding</i> <ul style="list-style-type: none"> ○ Ability to analyze the specific needs of the different species/varieties/rootstocks and suggest the most appropriate ones for the different environments. ○ Ability to know and apply the different cultivation techniques for the various fruit tree species. ○ Understanding the different uses of the various fruit products to differentiate the production. • <i>Autonomy of judgment</i> <ul style="list-style-type: none"> ○ Correctly orient the choice of the most suitable species/varieties/rootstocks in different pedoclimatic conditions. ○ Evaluate and properly advise on the application of the cultivation techniques for the different fruit tree species. • <i>Communication skills</i> <ul style="list-style-type: none"> ○ Explain the skills acquired with both a language appropriate to the topics discussed and a technical knowledge. ○ Present the acquired knowledge in the form of a presentation, pitch, brainstorming for both didactic and technical purposes. • <i>Ability to learn</i> <ul style="list-style-type: none"> ○ Evaluate the management of fruit trees with a careful choice of species/variety/rootstock and suitable cultivation techniques. ○ Broaden the acquired knowledge through in-depth analysis of technical and scientific texts of the fruit tree area, attending seminars, webinars, etc.
<p>Criteria for assessment and attribution of the final mark</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 Academic Regulations of the Master's Degree in Plant Medicine (expressed through the European Descriptors of the Degree).</p> <p>For students who have taken the mid-term test, the evaluation of the exam is expressed as the average between the mark obtained on the mid-term test and the final exam. The final mark is in 30 points. The test is passed with a mark higher or equal to 18.</p>
<p>Additional information</p>	



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