COURSE OF STUDY *Master degree:*
INNOVATION DEVELOPMENT IN AGRIFOOD SYSTEMS (IDEAS) (LM69)
ACADEMIC YEAR *2023-2024*
ACADEMIC SUBJECT *I.C Innovation in fruit and vegetable crops*
 Module: Sub-tropical and semi-arid fruit crops

General information	
Year of the course	*First*
Academic calendar (starting and ending date)	*First semester (February 26th – June 14th, 2024)*
Credits (CFU/ETCS):	*6 ECTS (4 ECTS of Lectures + 2 ECTS of laboratory or field classes)*
SSD	*General arboriculture and Tree crops (AGR/03)*
Language	*English*
Mode of attendance	*No Compulsory*

Professor/ Lecturer	
Name and Surname	*Alessandra Gallotta*
E-mail	*alessandra.gallotta@uniba.it*
Telephone	*0805442986*
Department and address	*DIP. DISSPA – Università degli Studi di Bari*
Virtual room	*Microsoft Teams: code hltde1t*
Office Hours (and modalities: e.g., by appointment, on line, etc.)	*Monday to Friday by appointment only.*

Work schedule	

Hours			
Total	Lectures	Hands-on (laboratory, workshops, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
150	*32*	*28*	*90*
CFU/ETCS			
6	*4*	*2*	

Learning Objectives	
Course prerequisites	Knowledge of Botany, General Arboriculture and Fruit Crops.

Teaching strategies	Teaching will be divided into classrooms, laboratory exercises and tecnica visits. The exercises will focus on web-based research, using specific keywords (superfood, novel food, sustainability, dried fruit, carbon footprint, etc.) related to tropical fruit farming, using different bibliographic sources (scholar, scopus, web of science). Laboratory activities will focus on 1) the fruits identification and the evaluation of their quality through the application of analytical methods and sensory test, marketing aspects with the participation of experts in the field in presence or connected via the web.. The technical visits will be held at the commercial orchards, and experimental sites.

	During the classroom will be given ample space for critical discussion and analysis of case studies related to experiments carried out and ongoing (crop management techniques, quality of the fruits, marketing issues, varietal innovation) subject of scientific publications and thesis.
Expected learning outcomes in terms of	
Knowledge and understanding on:	Knowledge and ability related to ecological and cultural practices of woody crops semi-arid and subtropical plants in the Mediterranean environment
Applying knowledge and understanding on:	Ability to design and manage a subtropical and semiarid tree orchard, to intervene at various stages of the production chain including endpoints related to the quality of the fruit.
Soft skills	• Making informed judgments and choices: Ability to identify the tropical tree species, to evaluate more appropriate economic, environmental, cultural techniques • Communicating knowledge and understanding: Learn the technical language of the discipline, develop the ability to popularize concepts related to subtropical and semi-arid woody crops in various contexts related to the territory (farmers, traders, consumers). • Capacities to continue learning: Ability of deepening and updating knowledge about the sub tropical and semi-arid crops.
Syllabus	
Content knowledge	• The main objective of the course is to provide students with the knowledge to identify, cure and manage the most important semi-arid and subtropical fruit tree species. In particular, to analyze some key points that characterize productive chain as the choice of the most suitable species to the environment, climate, agricultural techniques, soil and postharvest handling of tropical fruits. At the end of the course, students should be able to identify the most important species of subtropical and semiarid crops and critically interpreting cultural models in a Mediterranean climate.
Texts and readings	• Calabrese F., edizione 1993. Frutticoltura tropicale e subtropicale, vol. 1 e 2. Edagricole. ISBN: 8820633094 • R.E. Paull, O. Duarte. Tropical Fruits 2nd edition. C.A.B. International. ISBN; 9781845937898 • Lecture notes and other educational materials distributed during the classes (also made available online)
Notes, additional materials	• Scientific papers • Gardini, F., & Parente, E. (2013). Manuale di microbiologia predittiva. Italia: Springer-Verlag.
Repository	All teaching material will be available to students on web platforms (class Teams code *hltde1t*).

Assessment	

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Assessment methods	The exam consists of an oral dissertation on the topics developed during the theoretical and theoretical-practical lectures in the classroom and in practical activities (laboratory and educational visits).

Assessment criteria	• Knowledge and understanding:
	  o Describing the criteria for selection of tropical and semi-tropical fruit trees.
	• Applying knowledge and understanding:
	  o Applying advanced agronomical techniques for the cultivation of sub-tropical and semi-arid tree species. .
	• Autonomy of judgment:.
	  o Providing a critical interpretation of the productive results aimed at the prediction of vegetative growth, the evaluation of the effects of biological treatments and the evaluation of the commercial shelf-life of fruits.
	• Communicating knowledge and understanding:
	  o Describing, also through applicative cases, the practical aspects and potential consequences of this discipline on the research.
	  o Communicating the theoretical acquired concepts using the appropriate scientific language.
	• Capacities to continue learning:
	  o Design a practical approach for the selection of innovative subtropical and semi-arid fruit productive models.

Final exam and grading criteria	The assessment of the student's preparation is based on predetermined criteria in accordance with the Didactic Regulations of the Master's Degree Course in IDEAS The Examination Committee has a score ranging from a minimum of 18 to a maximum of 30 points for a positive assessment of the student's performance. By unanimous vote of its members, the Board may award honours in cases where the final mark is 30.
Further information	
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