



UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Scienze Agrarie, Alimentari e Forestali		
ACADEMIC YEAR	2021/2022		
BACHELOR'S DEGREE (BSC)	AGRI FOOD SCIENCES AND TECHNOLOGIES		
SUBJECT	PRODUCTION AND BIODIVERSITY OF FRUIT TREE FARMING		
TYPE OF EDUCATIONAL ACTIVITY	B		
AMBIT	50128-Discipline della tecnologia alimentare		
CODE	18519		
SCIENTIFIC SECTOR(S)	AGR/03		
HEAD PROFESSOR(S)	SORTINO GIUSEPPE	Ricercatore a tempo determinato	Univ. di PALERMO
OTHER PROFESSOR(S)			
CREDITS	6		
INDIVIDUAL STUDY (Hrs)	90		
COURSE ACTIVITY (Hrs)	60		
PROPAEDEUTICAL SUBJECTS			
MUTUALIZATION			
YEAR	1		
TERM (SEMESTER)	2° semester		
ATTENDANCE	Not mandatory		
EVALUATION	Out of 30		
TEACHER OFFICE HOURS	<p>SORTINO GIUSEPPE</p> <p>Monday 12:00 14:00 Viale delle Scienze, Ed. 4, Ingresso H, studio H-19 Dipartimento di Scienze Agrarie, Alimentari e Forestali (SAAF)</p> <p>Tuesday 12:00 14:00 Viale delle Scienze, Ed. 4, Ingresso H, studio H-19 Dipartimento di Scienze Agrarie, Alimentari e Forestali (SAAF)</p> <p>Wednesday 12:00 14:00 Viale delle Scienze, Ed. 4, Ingresso H, studio H-19 Dipartimento di Scienze Agrarie, Alimentari e Forestali (SAAF)</p> <p>Thursday 12:00 14:00 Viale delle Scienze, Ed. 4, Ingresso H, studio H-19 Dipartimento di Scienze Agrarie, Alimentari e Forestali (SAAF)</p>		

DOCENTE: Prof. GIUSEPPE SORTINO

PREREQUISITES	Basics of: general and systematic botany; organic chemistry; biochemistry
LEARNING OUTCOMES	<p>Knowledge and understanding: at the end of the course, students will have basic knowledge about systems and processes of production of the main tree fruit crops with particular reference to the impact that the different productive contexts (agricultural systems, environment, genotype used) determine on the qualitative and technological characteristics of the fruit foods.</p> <p>Applying knowledge and understanding: the knowledge and skills acquired will allow to recognize the variability of the products achieved in different production contexts can be applied in the valorization of the specific qualitative characteristics of raw materials coming from the "field phase".</p> <p>Making judgments: students will be able to evaluate specific quality parameters of raw materials from tree fruit crops in relation to the agricultural system, the production environment and the genotype used.</p> <p>Communication skills: the student will be able to demonstrate to technicians and entrepreneurs, but also to a non-expert audience through a simple but proper language, differences and peculiarities of raw materials to be used in agro-food processing both artisanal and industrial.</p> <p>Learning skills: setting the course towards a vision as wider as possible of the problems related to the characterization and valorization of the main raw materials produced from tree fruit crops will be a necessary tool to interact with specialists and entrepreneurs in the agro-food sector and to use profitably the future upgrades by technical and scientific sources of the sector.</p>
ASSESSMENT METHODS	<p>The oral test consists of an interview; the final evaluation is expressed in thirtieths and is derived from the weighted average of the votes by the number of credits of the two modules.</p> <p>The questions, open or semi-structured and specifically designed to test the learning achievements, tend to verify:</p> <p>a) the acquired knowledge and the ability to establish connections between the contents (general sections, special sections, models, etc.) of both modules ;</p> <p>b) the ability to provide independent judgments about the contents of the course and to place the contents of the course within the professional and technological context. The maximum score is achieved if the test ensures the full possession of the following: ability to represent emerging and/or minor issues of the discipline; strong ability to represent the impact of the course content within the sector where content enroll; ability to represent ideas and/or innovative solutions within the professional and technological context;</p> <p>c) adequate exhibition capacity: the maximum scoring can be achieved by persons who demonstrate complete fluency of the scientific and technological language, while the minimum scoring will be achieved if the examinee demonstrates a proper use of the language but not sufficiently articulated in relation to the professional context.</p> <p>Final notes go from 18 to 30 points. The student is required to answer at least 2 or 3 oral questions regarding the whole program of study with reference to the suggested books. Questions shall assess a) Knowledge and understanding b) cognitive and practical skills c) ability to communicate d) Making judgements</p> <p>Note European Qualifications Framework</p> <p>-30 - 30 cum laude a) advanced knowledge of a field of work or study, involving a critical understanding of theories and principles b) advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study c) fully adequate use of specialized language d) take responsibility for managing and innovate the study field.</p> <p>-26 29 a) comprehensive, specialised knowledge within a field of work or study and an awareness of the boundaries of that knowledge b) a comprehensive range of cognitive and practical skills required to develop creative solutions to problems c) comprehensive use of specialized language d) exercise management and supervision in contexts of work or study activities.</p> <p>-22 25 a) knowledge of facts, principles, processes and general concepts, in a field of work or study. b) basic skills required to accomplish tasks and *solve problems by selecting and applying basic methods, tools, materials and information c) basic capacity to use specialized language d) basic capacity to take responsibility for completion of tasks in work or study.</p> <p>-18-21 a) basic general knowledge b) basic skills required to carry out simple tasks c) basic capacity to communicate relevant informations d) basic capacity to take responsibility for completion of tasks in work or study.</p>
EDUCATIONAL OBJECTIVES	<p>The aim of the module is to provide basic knowledge on the main tree fruit crops, and on the variability of their products in relation to the environmental context, to the production systems and the varietal framework. In particular the module will highlight the effects of agronomic and varietal choices on the qualitative, commodity-related and technological characteristics of the main agro-food products derived from tree fruit crops. Such information provides the tool for the characterization and exploitation of the raw materials to be used in their respective agro-food chains.</p>

TEACHING METHODS	Lectures; classroom trainings; visits to farms and agri-food companies
SUGGESTED BIBLIOGRAPHY	<ul style="list-style-type: none"> - Sansavini S. e Ranalli P.. Manuale di ortofrutticoltura. Edagricole, 2013. ISBN 978-88-506-5360-7. - Colelli G., Inglese P., eds. Gestione della Qualita' e conservazione dei prodotti ortofrutticoli. Edagricole 2020. ISBN 978-88-506-5565-6. - Collana Coltura e Cultura - Bayer CropScience, versione on line http://www.colturaecultura.it. - Kader A.(editor). 2002. Postharvest Technology of Horticultural Crops. University of California ANR . Pub. n. 3311. Terza edizione. ISBN-13 : 978-1879906518. - Materiale didattico fornito dal docente.

SYLLABUS

Hrs	Frontal teaching
2	Outlooks and structure of Italian and international Horticulture.
4	Horticultural system and fruit quality
4	Regulation of fruit quality and post harvest fruit post harvest management
2	Minimal processed fruit
6	Pome fruit (Apple a growing and genetic resources)
10	Stone fruit (peach, apricot, cherry and plum) growing and genetic resources
6	Nut growing and genetic resource (almond, pistachio and hazelnut)
4	Olive growing and genetic resources: olive oil and table olives
8	Tropical and Subtropical fruit (mango, avocado and cactus pear)
4	Citrus growing and genetic resources
2	Kiwi growing and genetic resources
Hrs	Practice
4	Fruit quality evaluation: maturity index assessment
2	Minimally processed fruit: how to make it
2	Fruit recognition and olive oli sensory analysis