UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	
ACADEMIC YEAR	
ANNO ACCADEMICO EROGAZIONE	
SUBJECT	
CODE	
SCIENTIFIC SECTOR(S)	
HEAD PROFESSOR(S)	LO BIANCO RICCARDO Professore Associato Univ. di PALERMO
OTHER PROFESSOR(S)	
CREDITS	
PROPAEDEUTICAL SUBJECTS	
MUTUALIZATION	
YEAR	
TERM (SEMESTER)	
ATTENDANCE	
EVALUATION	
TEACHER OFFICE HOURS	**LO BIANCO RICCARDO** Tuesday 11:00 12:00 Ufficio: Dipartimento SAAF, edificio 4, ingresso H, PT-17 Thursday 11:00 12:00 Ufficio: Dipartimento SAAF, edificio 4, ingresso H, PT-17

DOCENTE: Prof. RICCARDO LO BIANCO

PREREQUISITES	Knowledge of main plant biology concepts, including cell structure and tissue organization into plant organs. Basic knowledge of physics and biophysics.
LEARNING OUTCOMES	Knowledge and comprehension: acquiring the scientific bases and fundamental cultural techniques of tree crops for production of wood biomass and/or fruit. Ability to use the specific language. Identification of cultivation goals of tree plantings and the ability to choose the appropriate techniques. Applying knowledge and understanding: ability to analyze the characteristics and cultivation needs for a tree planting. Ability to evaluate the different relationships among the components of a tree planting system and the possibilities of applying specific management techniques. Making judgments: ability to assess the implications and results of proposed management activities. Be able to assess their own mistakes in the technical and cultivation choices as well as the performance of the tree planting as compared to the expected performance, and reformulate management activities accordingly. Communication skills: ability to support the importance and highlight the economic and environmental impact of farming operations also to a non-expert audience; ability to instruct tree growers with the most appropriate technical options for the design and management of tree plantings for production of wood biomass and/or fruit. Learning skills: ability to acquire updated information by reading scientific and technical publications related to the tree crop industry. Ability to attend both second-level degree courses and industry-related seminars.
ASSESSMENT METHODS	1) Two semi-structured written tests, a midterm and a final. Their structure includes: a) a comprehensive set of closed questions (matching and multiple choice); b) open questions that meet predetermined correction criteria. The test structure helps determine the score to be assigned to each question depending on the correct, incorrect or missing answer, at the time of its construction. 2) An oral exam in addition (optional) or in place of the two written tests. In the first case, the examinees must answer specific questions on subjects for which they gave wrong answers during the written test and the exam is to improve the evaluation acquired with written tests. In the second case, the examinees must answer at least two / three questions posed orally, on all topics covered in class, with reference to the recommended text books. Final assessment aims to evaluate whether the student has knowledge and understanding of the topics, has acquired interpretative skills and independence of judgment in real cases. Evaluation is presented in scores out of 30 with a minimum score of 18 for passing, according to the following table: - sufficient/basic knowledge and ability to connect, apply and analyze covered topics (score 18-21) - fair/intermediate knowledge and ability to connect, apply and analyze covered topics (score 22-25) - good/high knowledge and ability to connect, apply and analyze covered topics (score 26-28) - excellent/advanced knowledge and ability to connect, apply and analyze covered topics (score 29-30L)
EDUCATIONAL OBJECTIVES	The educational goal is to train students on morpho-functional and technical principles for the cultivation of tree crops in general with practical examples of wood biomass and fruit production. Particular emphasis will be dedicated to the relationships between genotype and environment. The information needed to analyze the relationships among the individual components of the tree planting system and to evaluate the responses to selected cultural practices will also be provided.
TEACHING METHODS	Lectures and exercises (using computer, tablet or smartphones) in class, and field demonstrations in the campus plots of the SAF department.
SUGGESTED BIBLIOGRAPHY	Sansavini et al. 2012. Arboricoltura Generale. Patron Editore, Bologna

SYLLABUS

Hrs	Frontal teaching
1	Lecturing and evaluation structure and presentation
8	Tree morphology: below- and above-ground structures
6	Tree functioning: water and light relations, gas exchanges and carbon partitioning; source-sink relations.
8	Annual and life cycle: juvenility, bud dormancy, chilling requirement, bud-break
8	Fruiting cycle: flower induction and differentiation; pollination, fertilization, flower anomalies, fruit set. Alternate bearing; fruit growth and ripening
8	Propagation: tree reproduction and multiplication. Structure of a plant nursery.
10	Tree planting systems: choosing the site, plant material, spacings and training forms. Cultural practices and management systems

Hrs	Practice
2	Greenhouse demonstration of plant propagation by grafting and rooting of cuttings
2	Examples of pruning and training forms in the field
12	Smartphone/PC quizzes in class at the end of each covered topic