



UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Scienze Agrarie, Alimentari e Forestali		
ACADEMIC YEAR	2023/2024		
MASTER'S DEGREE (MSC)	– SCIENCE AND TECHNOLOGIES FOR SOIL PROTECTION AND CONSERVATION		
INTEGRATED COURSE	FIRE PREVENTION AND PROTECTION TECHNIQUES - INTEGRATED COURSE		
CODE	22835		
MODULES	Yes		
NUMBER OF MODULES	2		
SCIENTIFIC SECTOR(S)	AGR/03, AGR/05		
HEAD PROFESSOR(S)	LO BIANCO RICCARDO	Professore Ordinario	Univ. di PALERMO
OTHER PROFESSOR(S)	LO BIANCO RICCARDO	Professore Ordinario	Univ. di PALERMO
	LA MELA VECA DONATO SALVATORE	Professore Associato	Univ. di PALERMO
CREDITS	6		
PROPAEDEUTICAL SUBJECTS			
MUTUALIZATION			
YEAR	2		
TERM (SEMESTER)	1° semester		
ATTENDANCE	Not mandatory		
EVALUATION	Out of 30		
TEACHER OFFICE HOURS	<p>LA MELA VECA DONATO SALVATORE</p> <p>Tuesday 11:00 13:00 Studio del docente, Edificio, 4, Ingresso H, stanza 23 - viale delle Scienze - Palermo</p> <p>Thursday 11:00 13:00 Studio del docente, Edificio, 4, Ingresso H, stanza 23 - viale delle Scienze - Palermo</p> <p>LO BIANCO RICCARDO</p> <p>Monday 11:00 13:00 Dipartimento SAAF, edificio 4, ingresso H, studio 32. Ricevimento a distanza o in presenza su appuntamento via email.</p> <p>Wednesday 11:00 13:00 Dipartimento SAAF, edificio 4, ingresso H, studio 32. Ricevimento a distanza o in presenza su appuntamento via email.</p>		

DOCENTE: Prof. RICCARDO LO BIANCO

PREREQUISITES	Basic knowledge of tree biology, ecology and cultivation
LEARNING OUTCOMES	<p>Knowledge and understanding: basic biology and fundamental management techniques of the main wood, biomass and fruit tree species. Development of the most appropriate strategies for the establishment and cultivation management of a multi-functional tree crop planting with particular regard to the soil erosion and fire prevention in the hilly and mountainous areas in the Mediterranean environment. Acquisition of silvicultural management techniques for the prevention of forest fires and for the restoration of forest areas affected by fire with particular reference to the Mediterranean environment.</p> <p>Ability to apply knowledge and understanding: ability to use the information acquired during the course also using of the progress of scientific research with reference also to the new technologies available; ability to finalize knowledge to solve complex management and organizational problems in tree crop cultivation and forestry.</p> <p>Making judgements: ability to critically evaluate the problems connected to the various aspects of the professional activity, including those relating to social and ethical responsibilities; ability to express evaluations and judgments resulting from a critical approach.</p> <p>Communication skills: ability to communicate and disseminate the specific topics of the course effectively and with language properties, using the most innovative communication systems; ability to deal in synergy with other professional figures.</p> <p>Learning skills: possession of learning tools, logical skills and familiarity with the tools of new information technologies able of guaranteeing continuous updating of knowledge in the specific professional and scientific field.</p>
ASSESSMENT METHODS	<p>Evaluation is presented in scores out of 30 with a minimum score of 18 for passing, according to the following table:</p> <ul style="list-style-type: none">- 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 29-30 cum laude)
TEACHING METHODS	Class lectures, practical exercises and field/woods trips

MODULE
FIRE PREVENTION AND RESTORATION OF FIRE AREAS

Prof. DONATO SALVATORE LA MELA VECA

SUGGESTED BIBLIOGRAPHY

Bovio G., 1996. Come proteggersi dagli incendi boschivi. Regione Piemonte, Collana Protezione Civile e Ambiente.
Blasi C., Bovio G., Corona P., Marchetti M., Maturani A., 2015. Incendi e complessità ecosistemica: dalla pianificazione forestale al recupero ambientale
Materiale didattico fornito dal docente.

AMBIT	21005-Attività formative affini o integrative
INDIVIDUAL STUDY (Hrs)	47
COURSE ACTIVITY (Hrs)	28

EDUCATIONAL OBJECTIVES OF THE MODULE

The objective of the course is to provide students with a set of knowledge on silvicultural techniques of forest ecosystems useful for fire prevention and for the restoration of areas affected by fire.
In particular, the course explores the management problems of forest areas with a high predisposition to fires so that students can analyze various possibilities of silvicultural techniques for prevention and forest restoration.

SYLLABUS

Hrs	Frontal teaching
1	Fire as an ecological factor in forest ecosystems
2	Effects of fires on soil and forest vegetation
1	Legislation on forest fires: national law n. 3353 of 2000
2	Trends and causes of forest fires
2	Fire risk analysis and fuel models
3	Forest fire prevention techniques
2	Post fire monitoring
1	Natural reconstitution and vegetation series
2	Forestry techniques for restoring forest vegetation
Hrs	Practice
4	GIS analysis of a case study
6	Field evaluation of the effects of a fire on the soil-vegetation system

MODULE
WOOD SPECIES FOR THE MEDITERRANEAN ENVIRONMENT

Prof. RICCARDO LO BIANCO

SUGGESTED BIBLIOGRAPHY

A. Gentile, P. Inglese, M. Tagliavini. 2022. Arboricoltura speciale. Edagricole
S. Sansavini. Frutticoltura alternativa con le specie minori. Edagricole
M. Scortichini. Frutti da riscoprire: frutti minori dell'ecosistema mediterraneo. Edizioni agricole
Sansavini et al. 2012. Arboricoltura Generale. Patron Editore, Bologna

AMBIT	21005-Attività formative affini o integrative
INDIVIDUAL STUDY (Hrs)	47
COURSE ACTIVITY (Hrs)	28

EDUCATIONAL OBJECTIVES OF THE MODULE

The aim of the course is to train students on the morpho-functional and technical-scientific principles underlying the cultivation of tree species in areas prone to erosion like hilly and mountain sites. Educational activities will be focused mainly on tree crops for wood, biomass and fruit production, highlighting in particular the relationships between genotype and environment, crop multi-functionality in term of soil protection and types of final product, and the sustainability of the growing cycle.

SYLLABUS

Hrs	Frontal teaching
4	Tree crop planting steps: choosing the site, plant material, layout and training system.
3	Planting systems for soil protection and the production of fruit, wood and biomass.
3	Tree management system. Differences between fruit, wood and biomass plantings.
6	Notes on some tree species in the Mediterranean hills: nuts and dry fruit (carob, almond, hazelnut, pistachio), fresh fruit (apple, mulberry, pear, loquat), berries in arid environments (azarole, cane apple, blackberry, jujube, myrtle, service tree) evergreen species (olive, citrus) wood species (chestnut, walnut, ash)
Hrs	Practice
12	Preparation of an oral presentation for each student or for groups on one of the tree species with multi-functional characteristics (fruit/wood, fruit/biomass, wood/biomass, wood/landscape, etc.). Technical visits