



Teaching Guide			
Course	MULTIFUNCIONAL SILVICULTURE		
Degree	MASTER ERASMUS MUNDUS, MEDFOR		
Plan	506	Code	53026
Period	1 ST PERIOD	Type	compulsory
Level	MASTER	Course	
ECTS Credits	6		
Language	ENGLISH		
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Department	PLANT PRODUCTION & FOREST RESOURCES, 1 CIFOR-INIA		

GENERAL SCOPE

The subject focuses on multifunctional silviculture understood under a broad point of view. That is, silviculture focused on several complementary purposes. The subject is centered in the silvicultural systems and diagnosis, silvicultural treatments, risk management with special highlight in wildfires and erosion, regeneration, climate change and applied mycology. The students will participate actively in the diagnosis of special study cases and present the basis of a silviculture management program for a special case.

GENERAL OBJECTIVES



1) Stand assessment and typing for multipurpose forestry. Silvicultural diagnosis (1 erts). In this unit, the students will learn to manage full ecological information needed to prepare an adequate silvicultural diagnosis.

2) Silvicultural strategies for sustainable forest management (biodiversity, recreation, health and vitality, non woody products (other than mushrooms), protective forestry, etc.) (1 erts)

3) Silviculture and biodiversity (1,5 Ects)

Main effects and impacts of the silvicultural systems and treatment on biodiversity. Forestry strategies for biodiversity conservation.

3) Forest mycology (1,5 erts). Under the context studied in the unit 2, the students will get a deeper knowledge on big data bases on fungal diversity and production. The students will learn about the actual national and international data bases from national and international mycology research groups. The students will be able to analyze the main socio economic and ecological implications from these data. Modelling based on these data will be also studied based on study cases.

PROGRAMME TOPICS

1. Forest and stand diagnosis
2. Silvicultural systems
3. Silvicultural treatments
 - a. Regeneration
 - b. Tending
4. Silviculture and Wildfire
 - a. Ecology
 - b. Fire prevention
5. Silviculture and biodiversity
6. Forest mycology
 - a. General concepts
 - b. Research networking
 - c. Main databases
 - d. Case studies in Mediterranean mycosilviculture

**ASSESSMENT**

- Course requirements include participation in the classes (40%), presentation of the silviculture project (40%), and final exam (20%).
- Active participation in classes will be compulsory.

TEACHING METHODS & WORK PLAN

Activities		Personal work	
Theory	20	Reviewing concepts	30
Labs and travels	40	Practical work	60
TOTAL	60	TOTAL	90

Theoretical Classes:

- Stand and forest
- Stand dynamics
- Silvicultural diagnosis
- Even aged forest
- Unevenaged forest
- Coppice and coppice with standards forests
- Silvipastoral forests
- Silvicultural treatments
 - Regeneration
 - Tending
- Forest risks in Mediterranean forests
- Forest fires
- Fire ecology and behavior
- Fire prevention
- Adding value in forests
- Silviculture focused on fire prevention
- Analyzing specific strategies in high susceptible areas
- General concepts on applied mycology
- Main research groups at European scale and networking/research projects
- Main databases. Structure and analysis
- Case studies in Mediterranean mycosilviculture

Practical Classes:

- Laboratory classes to understand prescribed fire behavior.
- Technical fieldtrip to analyze real silvicultural treatments to reduce fire effects.



- Technical fieldtrip to research permanent net-plots on fungal diversity and production.

Personal work:

- Reviewing concepts
- Personal oral presentation and poster

ABILITIES TO BE DEVELOPPED

GENERAL ABILITIES:

- To be able to work in cross-disciplinary and multi-ethnic groups
- To develop interpersonal relations, recognizing and appreciating other cultures and habitats as well as diversity and multiculturalism
- To know and apply knowledges in practice, analyzing, summarizing, organizing & planning

SPECIFIC ABILITIES

- To give scientific knowledge from different fields that allow to face challenges and specific needs of silviculture in forests
- To develop and design silviculture strategies focused on wild fire prevention in high susceptible forests.

TEACHING RESOURCES

- **NOTICE:** Specific updated resources for each section will be available weekly on UVA-Moodle platform
- www.silviweb.com. Wikispaces.com
- www.fire.org

Professor's *Curriculum vitae*

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