

Course Unit	Urban Forestry	Field of study	Silviculture and Wildlife Management
Master in	Management of Forest Resources	School	School of Agriculture
Academic Year	2022/2023	Year of study	1
Type	Semestral	Semester	2
Level	2-1	ECTS credits	6.0
Code	6363-352-1201-00-22		
Workload (hours)	162	Contact hours	T 30 TP - PL 30 TC - S - E - OT 20 O -

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s) José Paulo Mendes Guerra Marques Cortez

#### Learning outcomes and competences

- At the end of the course unit the learner is expected to be able to:
1. - Understand the environmental importance and needs of trees in urban spaces
  2. - Recognize stress, disease or other issues on urban trees and consequences to public health
  3. - Apply forestry techniques in urban forests and determine tree values
  4. - Apply inventory and silviculture techniques in urban forests
  5. - Adapt silviculture techniques to urban and humanized areas
  6. - Planning basis for green areas management an urban context.

#### Prerequisites

Before the course unit the learner is expected to be able to:  
Basic knowledge on botany and forestry

#### Course contents

Identification and ecology of trees for urban use. Pruning techniques for ornamental trees. Stress and disease problems of trees in urban areas. Physiological basis and plant production for ornamental purposes. Soil and climate importance for urban trees. Ecological structure and green plans. Urban green spaces management and public welfare.

#### Course contents (extended version)

1. URBAN FORESTS
  - Concepts in urban forests
  - Historical evolution of urban trees and urban environments
2. VALUES AND NEEDS OF URBAN SOCIETIES
  - Ecological values
  - Urban trees and animals: ecosystem approach
3. IMPORTANCE AND EFFECTS OF URBAN TREES
  - Environmental effects
  - Social effects
4. URBAN SILVICULTURE
  - Species and tree selection. Physiology and propagation in ornamental species
  - Planting and tree growth guiding
  - Tree maintenance
5. INVENTORY AND TREE VALUES
  - Gardens and urban parks
  - Street trees
  - How to calculate tree values
6. PLANNING BASIS FOR URBAN FORESTRY
  - Public use
  - Urban tree planning
7. GREEN SPACES MANAGEMENT
  - Urban green structure
  - Recreation and protection areas
  - Damages and public health
8. Practices
  - Tree pruning in urban spaces
  - Tree measuring, urban tree recording and inventory data bases
  - Preparation of a green area afforestation plan

#### Recommended reading

1. Miller, RW 1997. Urban Forestry: Planning and Managing Urban Greenspaces. 2nd Ed. Prentice Hall
2. Palomo, PJS 2003. La Planificación Verde en las Ciudades. Ed. Gustavo Gili
3. Michau, E (1998). Manual Fapas – A poda das árvores ornamentais. Gráfica Claret
4. Cox, S 2012. Urban Trees: A Practical Management Guide. Crowood Press
5. Roloff, A. (ed.) (2016) Urban Tree Management. Wiley Blackwell.

#### Teaching and learning methods

Lecture sessions with multimedia support, tutorial classes and practice based on group works on field and lab, using software and scientific documents

#### Assessment methods

1. Alternative 1 - (Regular, Student Worker) (Final)
  - Final Written Exam - 70% (Theoretical (50%) and practice (20%))
  - Practical Work - 30% (Tree measurement and pruning)
2. Alternative 2 - (Regular, Student Worker) (Supplementary)
3. Alternative 3 - (Student Worker) (Special)

## Language of instruction

1. English
2. Portuguese

## Electronic validation

José Paulo Mendes Guerra Marques Cortez	José Manuel Correia Santos Ferreira Castro	Felícia Maria Silva Fonseca	Maria Sameiro Ferreira Patrício
21-12-2022	21-12-2022	21-12-2022	21-12-2022