

Course Unit	Arboriculture			Field of study	Animal and Agricultural Productions		
Bachelor in	Agronomic Engineering			School	School of Agriculture		
Academic Year	2022/2023	Year of study	3	Level	1-3	ECTS credits 5.5	
Туре	Semestral	Semester	1	Code	9086-307-3101-00-22		
Workload (hours)	148,5	Contact hours	T 30 TP T - Lectures; TP - Lectures a	- PL 30 T nd problem-solving; PL - Problem-	C - S - solving, project or laboratory; TC	E - OT 20 O - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other	

Name(s) of lecturer(s)

Albino António Bento

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to: Provide skills in horticulture Integrate knowledge in the overall functioning of the orchards Acquire basic skills in the operation of an orchard

Prerequisites

Before the course unit the learner is expected to be able to: Knowledge of soils fertility. Basic knowledge in climatology.

Course contents

World country producers. Fruit trees structure and morphology. Pruning and various interventions. Forms and training systems. Fruit trees propagation. Soil and climatic requirements for fruit trees. Soil preparation and implementation of the orchard. Maintenance of the soil. Floral differentiation. insect and airborne pollinations. Self fertilization and cross-fertilization. Growth and of fruit maturation. Collection and preservation of fruits. Determining the date of harvest. Breeding of fruit.

Course contents (extended version)

- Expression and geographical trees fruit. Countries leading producers.
 Pruning interventions Basic criteria of pruning. Pruning and training fruiting.
 Forms and training systems. Objectives of training systems
 Propagation methods. Techniques of propagation by cuttings and by grafting.
 Incompatibility in grafting. Grafting types. Propagation in vitro.
 The ecological requirements of the trees fruit. Climatic factors
 Solid and ecological contractoristics. Characteristics of coll solution to the first set.
- The ecological requirements of the trees truit. Climatic factors
 - Soil and ecological characteristics. Characterization of soil related to fruit crops.
 Preparing the soil and implementation of the orchard. Planting and pos-plantation care.
 Maintenance of the soil.
 Floral differentiation. Airborne pollination and pollination by insects. The parthenocarpy. Growth and maturation of fruits. Physiological maturity and commercial.
 Harvest and fruit conservation. Harvest date determination .

- 9. Fruit plant breeding
 10. 10-Practical Program Contents: Visit to the orchard. Contact with various plants

 Vegetative and fruiting habits. Identification of fruiting branches, and vegetative branches
 Pruning. Basic pruning. Pruning of pome and stone fruits
 propagation techniques by cuts and by grafting

Recommended reading

- Gautier, M. 1988. L'arbre fruitier. Vols 1 e 2. Editions J. B. Baillière. Paris
 Gil-Albert, F. 1997. Tratado de Arboricultura Frutal. Vols I, II, III e IV. Ediciones Mundi-Prensa. Madrid
 Hartman, H. T., Kester, D. E., Davies, F. T. & Geneve, R. L. 1997. Plant Propagation. Principles and Practics. Prentice-Hall Inc. USA
 Mendes Ferrão, J. E. 2002. Fruticultura tropical. Espécies com frutos comestíveis. Vols I, II e III. Instituto de investigação científica tropical. Lisboa
 Aguiar, C. 2018 Botânica para Ciências Agrárias e do Ambiente. CIMO. Bragança

Teaching and learning methods

Lectures - 2 lessons per week for 1 hour. classes using the media films about several themes in plant breeding. Provision of study materials via the e-learning resources. Practical classes - 1 lesson weekly for 2 hours. Carrying out practical work in the field.

Assessment methods

- final examen (Regular, Student Worker) (Final)

 Final Written Exam 70%
 Practical Work 30% (performed in class or examination exams for worker students)
- Practical Work 0% (performed in class or examination examples in work Final Written Exam 100%
 Practical Work 0% (performed in class or exams fort worker students)

Language of instruction

Portuguese, with additional English support for foreign students.

Electronic validation			
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09-12-2022	12-12-2022	20-12-2022	20-12-2022