

Course Unit	Agroecology		Field of study	Earth Sciences	
Bachelor in	Zootechnical Engineering		School	School of Agriculture	
Academic Year	2023/2024	Year of study	1	Level	1-1
Type	Semestral	Semester	1	ECTS credits	6.0
Code	9129-815-1101-00-23				
Workload (hours)	162	Contact hours	T -	TP -	PL -
			TC -	S -	E -
			OT -	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) Zulimar Hernández Hernández

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

1. The effect of the different elements of climate on plant development.
2. Interpret meteorological information relevant to climate classification.
3. Identify and characterize the different soil components.
4. The soil properties and their influence on plant development.
5. The nutrients that are essential for plant growth.
6. Techniques for assessing soil fertility status.
7. Recognize the importance of land resources in the ecosystems.

Prerequisites

Before the course unit the learner is expected to be able to:
None.

Course contents

Factors affecting crop yield. Atmospheric phenomena, climate factors, climate characterization. The soil: formation and the major components. Physical and chemical properties. Soil and plant relationships. Plant nutrition. Soil fertility evaluation. Practical classes: instruments of measurement of the climate, climatic data. Hydrological balance and climatic classification. Soil properties and soil fertility.

Course contents (extended version)

1. Climatic factors that affect the plant growth.
 - Astronomical causes of the atmospheric phenomena
 - Elements of climate and his effect in the development of the plants.
2. The soil
 - Soil formation. Organic and mineral constituents.
 - Physical and chemical soil properties.
3. Plant Nutrition and soil nutrients behaviour.
4. Techniques to the soil fertility evaluation.
5. Practical Classes: Climate
 - Instruments and measurement of the elements of climate: climatic data and practical use.
 - Hydrological balance and climatic classification.
6. Practical Classes: Soil
 - Study of soil properties.
 - Evaluation of soil fertility.

Recommended reading

1. Feio, Mariano (1991) Clima e Agricultura. MAPA, Lisboa; Gonçalves, Dionísio (1980) Cadeira de Climatologia. IPVR, Vila Real.
2. Yague, F. (1989) Iniciación a la Meteorología Agrícola. MAPA/Mundi-rensa, Madrid.
3. Porta, L., M. López Acevedo e C. Roquero. 1999. Edafología para la agricultura y el medio ambiente. 2º ed. Ediciones Mundi-Prensa. Madrid.
4. Santos, J. Q. 2000. Fertilização. Fundamentos da utilização dos adubos e correctivos. Colecção Euroagro. Publicações Europa-América
5. Costa, J. B. 1991. Caracterização e constituição do solo. 4ª ed. Fundação Calouste Gulbenkian. Lisboa

Teaching and learning methods

Lectures with exposure of the subjects. Practical classes with activities and exercises. Provision of study materials and work protocol. Support and assistance to the students.

Assessment methods

1. Alternative 1 - (Regular, Student Worker) (Final, Supplementary, Special)
 - Practical Work - 40% (Practical Work - 40% (Practicals performed with positive assesement))
 - Final Written Exam - 60% (Final Written Exam - 60% (assessing all topics lectured, practical items with residual weight))
2. Alternative 2 - (Student Worker) (Final, Supplementary, Special)
 - Final Written Exam - 100% (Final Written Exam - 100% (Exam assessing also practicals, 50%, minimum score 10/20))

Language of instruction

Portuguese, with additional English support for foreign students.

Electronic validation

Zulimar Hernández Hernández	Álvaro Luís Pegado Lemos Mendonça	Marieta Amélia Martins Carvalho	Ramiro Corujeira Valentim
12-02-2024	13-02-2024	14-02-2024	17-02-2024