Curricular Unit Form

POLITÉCNICO DE PORTALEGRE

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Escola Superior Agrária de Elvas

Updated On	2024/02/07
Curricular Year / Period	2023/24 / S1
Course	Agronomy
Curricular Unit	Plant Health
Language(s) of Instruction	Português Não aplicável

ECTS/tempo de trabalho (horas)

ECTS	Total	Horas de contacto semestral								
		T	TP	PL	S	TC	E	O	OT	EC
6	160	0	48	16	0	0	0	0	0	0

T - Theoretical; TP - Theoretical and practical; LP - Laboratory Practice; S - Seminar; TG - Tutorial guidance; FW - Fieldwork; T - Training; ; EC - Clinical teaching; O* - Other hours typified as Clinical Training under the Directive 77/453/EEC of June 27, adapted by Directive 2005/36/EC.

Teacher in charge (GDPR consent)

[complete name, email]

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Prerequisites

[Curricular Units that must precede and specific entry competences]

Plant Biology; Pedology; Meteorology and Climatology

Learning outcomes

[Description of the overall and specific objectives] [Knowledge, skills and competences to be developed by students]

1. Study of the main enemies of agricultural crops and forest species, distinguishing abiotic and biotic agents.
2. General concepts of phytopathology, entomology and herbology.
3. Study of the symptomatology manifested, due to the presence of the enemies of the cultures.
4. Study of control strategies, and available means of fighting the enemies of the cultures, based on the principles of Integrated Plant Protection, from the perspective of more sustainable agriculture and protection of ecosystems.
5. Basic concepts of phytopharmacology and homologation of plant protection products.

Sustainable Developemnt Goals

Syllabus

1. Introduction
2. Phytopathology: Disease (parasitism and pathogenicity): Classification, Symptoms, Diagnosis; Disease cycles; Agents (Classification and Symptoms): Bacteria, Fungi, Nematodes, Viruses, Mycoplasmas, Rickettsias
3. Pest: Entomology (Insects, Mites), Vertebrates, Molluscs - Morphology, Classification, Symptomatology and Damage.
4. Herbology: Concept of weed; Characteristics of families and species; Harmfulness.
5. Phytopharmacology: Classification and composition of plant protection products: Formulation, Toxicological symbols and labels; Application material and application techniques of the plant protection products; Safety rules in the application of plant protection products.
6. Phytosanitary protection: Means of struggle: Cultural, Physical, Biological, Biotechnical, Chemical (Fungicides, Insecticides / Acaricides and Herbicides); Integrated Plant Protection (IPP); Principles and Components of IPP; Practices in IPP; Risk estimation; Economic Threshold (ET).
7. Phytosanitary - legal framework

Teaching methodologies (including assessment)

[Specify the types of assessment and the weights and evaluation criteria]

1 - Teaching methodologies

- Theoretical-practical and practical-laboratory classes;
- Execution of practical work with reports;
- Study visits.

The assessment is based on 3 components:

1). Written tests (60% of final grade) - 2 written partial tests (1st. Test - Points 1 to 4 of syllabus; 2nd Test - Points 5 to 7 of syllabus), and/or written exam; minimum grade for all written tests: 9,0 values;

2). Oral Presentations / Seminar with PowerPoint (30% of final grade) about:
- diseases (bibliographic research),
- pests (bibliographic research),
- weeds (bibliographic research and results of the field work).

3). Written Reports (10% of final grade):
- Report on weeds in a chosen crop (field work),
- Reports of possible study visits.

2 - Period assessment

The assessment is based on 3 components:
1). Written tests (60% of final grade) - 2 written partial tests (1st. Test - Points 1 to 4 of syllabus; 2nd Test - Points 5 to 7 of syllabus); minimum grade for all written tests: 9,0 values;

2). Oral Presentations / Seminar with PowerPoint (30% of final grade) about:
- diseases (bibliographic research),
- pests (bibliographic research),
- weeds (bibliographic research and results of the field work).

3). Written Reports (10% of final grade):
- Report on weeds in a chosen crop (field work),
- Reports of possible study visits.

3 - Examination assessement

The assessment is based on 3 components:
1). Written tests (60% of final grade) - written exam; minimum grade for all written tests: 9,0 values;

2). Oral Presentations / Seminar with PowerPoint (30% of final grade) about:
- diseases (bibliographic research),
- pests (bibliographic research),
- weeds (bibliographic research and results of the field work).

3). Written Reports (10% of final grade):
- Report on weeds in a chosen crop (field work),
- Reports of possible study visits.

Bibliography

1 - Main Bibliography

Amaro, P. (1982). Os principais inimigos das culturas agrícolas em Portugal. Anais do Instituto Superior de Agronomia, Vol. XL, p.135-168.
Amaro, P. (2003). A Protecção Integrada. Edições ISA Press, Lisboa.
Chaves, J.A.S. (1992). Inimigos das Culturas. Ministério da Agricultura.
Frescata, C. (2004). Protecção contra pragas sem luta química. Colecção Euroagro. Publicações Europa-América, Mem Martins.
Gárcia-Torres, L.G. e Fernadez-Quintanilla, C. (1991). Fundamentos sobre malas hierbas y herbicidas. Ministerio de agricultura y alimentación e Ediciones Mundi-Prensa, Madrid.
Villarías, J. L., (2006). Atlas de malas hierbas. Ediciones Mundi-Prensa. Madrid

2 - Complementary Bibliography

Carmona, M.M. e Dias, J.C.S. (1996). Fundamentos de acarologia agrícola. Fundação Calouste Gulbenkian, Lisboa.
Ilharco, F.A. (1992). Equilíbrio biológico de afídeos. Fundação calouste Gulbenkian, Lisboa.
Ramón, R. C. (2004). Introducción a la protección integrada. Phytoma-Espanha, Valência.

Special Situations

[Students with special status]

1 - Period assessment - Students with special status

All students must have a minimum of 75% attendance of teaching-learning activities, to be approved on this curricular unit. This rule excludes student workers, military students or others with special status, by virtue of the legislation.
All students should complete, with a grade higher than 9,5 values, the Report on weeds in a chosen crop, to obtain approval in this curricular unit.

	2 - Examination assessement - Students with special status All students must have a minimum of 75% attendance of teaching-learning activities, to be approved on this curricular unit. This rule excludes student workers, military students or others with special status, by virtue of the legislation. All students should complete, with a grade higher than 9,5 values, the Report on weeds in a chosen crop, to obtain approval in this curricular unit.