

Year : 2018/19

28944 - Crop protection

Syllabus Information

Academic Year:	2018/19
Subject:	28944 - Crop protection
Faculty / School:	201 -
Degree:	437 - Degree in Rural and Agri-Food Engineering
ECTS:	6.0
Year:	4
Semester:	First semester
Subject Type:	Compulsory
Module:	---

General information

Aims of the course

Context and importance of this course in the degree

Recommendations to take this course

Learning goals

Competences

Learning goals

Importance of learning goals

Assessment (1st and 2nd call)

Assessment tasks (description of tasks, marking system and assessment criteria)

Methodology, learning tasks, syllabus and resources

Methodological overview

The course is divided into three sections: first, knowledge about the most relevant pests caused by insects and mites, as well as the main methods to control their incidence on crops; second, problematics caused by weeds and the corresponding strategies to control them; and third, diseases originated by infection of fungi, nematodes, prokaryotes and viruses in cultivated plants, and the diverse strategies of integrated management that could be applied for a sustainable plant protection.

Theoretical lessons in classroom.

Practical sessions in lab and computer room.

Tutorial sessions.

Field visits.

Learning tasks

I. Pest caused by insects and mites. Theoretical and practical lessons.

II. Weeds and their control methods .Theoretical and practical lessons.

III. Diseases caused by fungi, prokaryotes and viruses. Theoretical and practical lessons.

Field visits

Syllabus

Theory programme

Topic 1. Introduction to Crop Protection

Topic 2. Insects

Topic 3. Main endopterygote pests in extensive crops

Topic 4. Main exopterygote pests in extensive crops

Topic 5. Mites.

Topic 6. Main mite pests in extensive crops.

Topic 7. Protecting extensive crops from mite pests.

Topic 8. Weeds and plant parasites.

Topic 9. Integrated management of weeds

Topic 10. Chemical control of weeds.

Topic 11. Concepts of plant pathology.

Topic 12. Pathogenic plant fungi.

Topic 13. Mycosis in extensive crops.

Topic 14. Diseases caused by bacteria.

Topic 15. Diseases caused by Nematodes

Topic 16. Pathogenic plant viruses and viroids.

Topic 17. Protecting extensive crops against diseases.

Practical Programme

Practical 1. Identifying pest insects (I)

Practical 2. Identifying pest insects (II).

Practical 3. Identifying pest insects (II).

Practical 4. Pest control handbook (problems).

Practical 5. Identifying weeds (I)

Practical 6. Identifying weeds (II)

Practical 7. Verifying the causal agent: Koch's postulates, pure cultures.

Practical 8. Ectophytic and endophytic fungi. Trypan blue stain.

Practical 9. Diagnosing fungal infections.

Practical 10. Fungicides. Active substances record.

Practical 11. Diagnosing bacterial and viral infections in plants.

Course planning and calendar

Week			Personal work
	Theoretical sessions	Practical sessions	
1	Theme 1	-	-
2	Theme 2	-	Study (2 h)
3	Theme 3	Practice 1	Study (4 h)
4	Theme 4	Practice 2	Study (4 h)
5	Theme 5	Practice 3	Study (4 h)
6	Theme 6	Practice 4	Study (4 h)
7	Theme 7		Study (6h)
8	Theme 8	Practice 5	Study (4 h)
9	Theme 9	Practice 6	Study (4 h)
10	Theme 10	Field visit (4h)	Study (2h)
11			Study (8 h)

12		-	Study (8 h)
13	Theme 11 Theme 12		Study (4 h)
14	Theme 13	Practice 7	Study (4 h)
15	Theme 14	Practice 8	Study (4 h)
16	Theme 15		Study (4 h)
17	Theme 16	Practice 10	Study (4 h)
18	Theme 17	Practice 11	Study (4 h)
19	-	Oral presentation (1h)	Study (7 h)
20	Evaluation (2h)	-	Study (6 h)
Total	36	27	87

Bibliography and recommended resources

- BB** Enfermedades causadas por nematodos fitoparásitos en España / editoras científicas, María Fe Andrés Yeves, Soledad Verdejo Lucas . Valencia : Phytoma-España ; [Madrid] : Sociedad Española de Fitopatología, D.L. 2011
- BB** Enfermedades de las plantas causadas por hongos y oomicetos : naturaleza y control integrado / editores científicos, Rafael Manuel Jiménez Díaz, Emilio Montesinos Seguí . Valencia : Phytoma España, D.L. 2010
- BB** García Marí, Fernando. Las plagas agrícolas / Fernando García Marí, Josep Costa Comelles, Francisco Ferragut Pérez . Valencia : Agropubli, D.L.1994
- BB** Villarias Moradillo, José Luis. Atlas de malas hierbas / José Luis Villarias Moradillo . 3a. ed. rev. y ampl. Madrid : Mundi-Prensa, 2000
- BC** Ayllón, M.A., et al. (2017). Enfermedades de plantas causadas por virus y viroides. Sociedad Española de Fitopatología
- BC** Herramientas biotecnológicas en

- fitopatología / editores científicos, Vicente Pallás...[et al.] . Madrid [etc.] : Mundi-Prensa, 2008
- BC** Patología vegetal / editores G. Llácer... [et al.] . 2ª ed. Valencia : Phytoma España : Mundi-Prensa, 2000
- BC** Recasens i Guinjuan, Jordi. Malas hierbas en plántula : guía de identificación / Jordi Recasens, Josep Antoni Conesa . Lleida : Universitat de Lleida [etc.], 2009

The updated recommended bibliography can be consulted in:
<http://psfunizar7.unizar.es/br13/egAsignaturas.php?id=8105>