DEGREE CURRICULUM

PLANT PRODUCTION AND PROTECTION SYSTEMS

Coordination: SANTIVERI MORATA, FRANCISCA

Academic year 2023-24

PLANT PRODUCTION AND PROTECTION SYSTEMS 2023-24

Subject's general information

<table>
<tr><td>Subject name</td><td>PLANT PRODUCTION AND PROTECTION SYSTEMS</td></tr>
<tr><td>Code</td><td>14414</td></tr>
<tr><td>Semester</td><td>1st Q(SEMESTER) CONTINUED EVALUATION</td></tr>
<tr><td>Typology</td><td>
<table>
<tr><th>Degree</th><th>Course</th><th>Character</th><th>Modality</th></tr>
<tr><td>Master's Degree in Agronomic Engineering</td><td>1</td><td>COMPULSORY</td><td>Attendance-based</td></tr>
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<tr><td>Course number of credits (ECTS)</td><td>7</td></tr>
<tr><td>Type of activity, credits, and groups</td><td>
<table>
<tr><th>Activity type</th><th>PRACAMP</th><th>TEORIA</th></tr>
<tr><th>Number of credits</th><td>1</td><td>6</td></tr>
<tr><th>Number of groups</th><td>1</td><td>1</td></tr>
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<tr><td>Coordination</td><td>SANTIVERI MORATA, FRANCISCA</td></tr>
<tr><td>Department</td><td>AGRICULTURAL AND FOREST SCIENCES AND ENGINEERING</td></tr>
<tr><td>Teaching load distribution between lectures and independent student work</td><td>The master has 75% of face-to-face teaching</td></tr>
<tr><td>Important information on data processing</td><td>Consult this link for more information.</td></tr>
<tr><td>Language</td><td>Spanish: 30%
Catalan: 70%</td></tr>
<tr><td>Distribution of credits</td><td>Jaume Lloveras, 2,6 (Parts comunes).
Matilde Eizaguirre, 2 (Entomologia, Patologia).
Joan Costa, 1,6 (Fructicultura, Horticultura).
Andreu Taberner, 1 (Malherbologia)</td></tr>
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PLANT PRODUCTION AND PROTECTION SYSTEMS 2023-24

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
COSTA TURA, JOAN	joan.costatura@udl.cat	1,6	
EIZAGUIRRE ALTUNA, MATILDE	matilde.eizaguirre@udl.cat	2	
RECASENS GUINJUAN, JORDI R.	jordi.recasens@udl.cat	1	
SANTIVERI MORATA, FRANCISCA	paquita.santiveri@udl.cat	2,4	

Learning objectives

- Acquire theoretical knowledge on the ecophysiology of crops and their application in agronomy
- Recognize the main plant production systems
- Analyze the characteristics of an agricultural system
- Demonstrate theoretical knowledge and its application on plant protection systems

Competences

The basic general competences collected in the R.D. 1393/2007 (B06, B07, B08, B09, B10).

CE3: Plant production systems. Integrated crop protection systems. Management of research and development projects of new technologies applied to plant production processes: biotechnology and plant improvement.
CG1: Ability to plan, organize, direct and control the production systems and processes developed in the agricultural sector and the agri-food industry, within a framework that guarantees the competitiveness of companies without forgetting the protection and conservation of the environment and the improvement and development sustainable rural environment.
CG7: Aptitude to develop the necessary skills to continue learning autonomously or directed, incorporating new professional activities

Subject contents

Theory
1. Introduction to agricultural production **(P. Santiveri)**.
2. Varieties and varietal selection.
3. Soil tillage.
4. Sowing and plantations.

5. Fertilization.
6. Use of water and irrigation
7. Harvest and storage.
8. The productive systems in extensive crops.
9. Type of crops and their specific characteristics: plant material, annual and growing cycle, adaptation to the environment and specific techniques **(J. Costa).**
10. Typology of farms. Examples.
11. Organization and decision-making on the farm: plan, program and production process.
12. Characteristics and types of production systems.
13. The production process.
14. Choice of production technology. Basic production systems
15. Interactions between components.
16. Insect control **(M. Eizaguirre).**
17. Pest control strategy.
18. Insects.
19. Control methods 1.
20. Disease control
21. Control methods 2.
22. Insect Orders 1.
23. Insect orders 2.
24. Weed control: **(J. Recasens).**
25. Weed control: extensive crops.
26. Weed control: horticulture.
27. Weed Control: fruit growing.

Practices
1. Seeds
2. Fertilizers
3. Entomology's Lab

Visits
1. Extensive crops: Almacelles
2. Weeds

Methodology

The teaching methodology of the subject includes:
- Master classes (theory). In theory classes, exercises and case solving will be proposed where the theoretical knowledge of the subject will have to be applied.
- Technical visits to farms and companies in the sector
- Laboratory and field practices

Development plan

Session	Hours	Lesson
1	3	Lesson 1
		Lesson 2
		Lesson 3
2	3	Lesson 4

3	3	Lesson 5 Practise 1
4	3	Lesson 6 Lesson 7
5	2	Visit
6	3	Lesson 8 Practise 2
7	3	Lesson 9 Practise 3
8	3	Lesson 10 Lesson 11
9	3	Lesson 12 Lesson 13
10	3	Lesson 14 Lesson 15
11	3	Lesson 16 Lesson 17
12	3	Lesson 18 Lesson 19
13	3	Lesson 20 Lesson 21
14	3	Lesson 22 Lesson 23
15	3	Visit
16	3	Lesson 24 Lesson 25
17	3	Lesson 26
18	3	Lesson 27

Evaluation

Block 1 (50 %): Theory. An examination will be carried out of the Generalist (25 %) and Cultivation Protection (Insect Control, Pests and Weeds) (25 %).

Block 2 (20 %): Report. The contents of Horticulture and Fructiculture will be evaluated through a report.

Block 3 (15 %) : Practices i activities. Attendance will be taken into account in the assessment of practices and a written report can be requested.

Block 4 (15 %): Visits. Visits attendance will also count for the grade. From each visit a written report can be requested.

To obtain the final note, the theory weighs 60%, practices and visits 10%, exercise resolution 10% and 20% fruit farming work.

A minimum of five points must be obtained in block 1 to pass the subject.

ALTERNATIVE EVALUATION

Visits are compulsory (15 %). Global examn with theoretical and practical questions (85 %)

Bibliography

- Agustí, M. 2004. Fruticultura. Mundi-Prensa. Madrid.
- Agrios, G.N. 2005. Plant Patology. ElsevierAcademicPress, Burlington. MA.
- Fernández-Quintanilla, C.; Garrido,M., Zaragoza, C (eds) (1999). Control integrado de malas hierbas. Phytoma.
- Garcia-Serrano, P., Delgado, Y., Ruano, S., Lloveras, J. Urbano, P., Pérez, M., Ortiz, J., Rodriguez, B.Mª (Coordinadores). 2011. Guia práctica de la fertilización racional de los cultivos en España. 2da Edición. Ministerio de Medio Ambiente y Medio Rural y Marino. Madrid.
- López Bellido, L. 1991. Cereales. Mundi-Prensa. Madrid.
- Smith, D.L., Hamel, C. (Eds.). 1999. CropYieldPhysiologyandproceses. Springer. Berlin.
- Maroto, J.V. 2000. Elementos de Horticultura General. Mundi-Prensa. Madrid.