

28931 - Fruit Production I

Información del Plan Docente

Academic Year	2016/17
Academic center	201 - Escuela Politécnica Superior
Degree	437 - Degree in Rural and Agri-Food Engineering
ECTS	6.0
Course	3
Period	Second semester
Subject Type	Compulsory
Module	---

1.Basic info

1.1.Recommendations to take this course

1.2.Activities and key dates for the course

2.Initiation

2.1.Learning outcomes that define the subject

2.2.Introduction

3.Context and competences

3.1.Goals

3.2.Context and meaning of the subject in the degree

3.3.Competences

3.4.Importance of learning outcomes

4.Evaluation

5.Activities and resources

5.1.General methodological presentation

Interactive master classes, practical sessions, technical visits, tutored sessions, and presentation of projects.

5.2.Learning activities

The course consists of 30 hours interactive master classes that will be held regularly during the 15 week, 6 hours (practical sessions) dedicated to problem solving and case, 14 hours (practical sessions) devoted to laboratory practice, greenhouse or orchard, 6 hours (practical sessions) visiting fruit farms or fair fruit growing. The course work is divided into a tutored session (2 h) and presentation if projects (2 h).

5.3.Program

Theoretical program

1. Interactive master classes (activity type 1) - 30 hours/student

Module I - Morphology and physiology of fruit trees

I.1 Morphology of fruit tree

I.2 Blooming to ripening - cycles

Module II - Multiplication of fruit trees

II.1 Sexual and asexual multiplication (micropropagation)

II.2 Asexual multiplication (layers and rootstocks)

II.3 Grafts

Module III. Planting techniques

III.1 Soil and climate

III.2 Planting techniques

Module IV - Fruit tree cultivation techniques

IV.1 Pruning and thinning out

IV.2 Shape pruning

IV.3 Soil maintenance

IV.4 Fertilization

IV.5 Irrigation

IV.6 Pest and disease control

IV.7 Harvesting and storage

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Module V - Regulations

V.1 Organic production, integrated production and CMO in fruits

Content of practical sessions

2. Resolution of problems and cases (activity type 2) - 6 hours/student

i.1 Selection of growing areas through GIS

i.2 Strategical alternatives

3. Laboratory practice (activity type 3) - 14 hours/student

a.1 Description and identification of fruit trees

a.2 Fruit quality

a.3 Pruning and pruning systems

a.4 Sexual and asexual multiplication

a.5 Grafts

a.6 Pest and disease control

4. Special practice (activity type 4) - 6 hours/student

Given the importance of direct contact with fruit culture, an external visit has been scheduled for students to know orchards with different production goals

5. Tutorials, revision and presentation of projects (activity type 6) - 4 hours/student

6. Teaching project (activity type 6) - 16 hours/student

Preparing and presenting a practical project (workshop type). The topics for this activity will be suggested at the beginning of the course.

7. Study (activity type 7) - 74 hours/student

Global final test in accordance with the Regulation of Learning Assessment Standards of the University of Zaragoza

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Trabajo autónomo	5	5	5	5	5	4	5	5	5	5	5	5	5	5	74
															150

5.5. Bibliography and recommended resources

Bibliografía básica

Agustí Fonfría, Manuel. Fruticultura / Manuel Agustí . Madrid : Mundi-Prensa, 2004

Baldini, Enrico. Arboricultura general / Enrico Baldini ; versión española de José de la Iglesia González . Madrid : Mundi-Prensa, 1992

Gil Salaya, Gonzalo F.. Fruticultura. Vol I y II./ Gonzalo F. Gil Salaya . 2ª ed. Santiago : Alfaomega : Ediciones Universidad Católica de Chile, cop.1999

Gil-Albert Velarde, Fernando. El cultivo de las plantaciones frutales / Fernando Gil- Albert Velarde . Madrid : Mundi-Prensa, 2015

Gil-Albert Velarde, Fernando. Tratado de arboricultura frutal. Vol.I a V, Fernando Gil-Albert Velarde. 3ª ed. rev. Madrid : Ministerio de Agricultura, Pesca y Alimentación : Mundi-Prensa, 1991

Bibliografía complementaria

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Calderón Alcaraz, Esteban. Fruticultura general : el esfuerzo del hombre / Esteban Calderón Alcaraz . 3a ed., 3a reimp. México : Limusa, 1989

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Coutanceau, M.. Fruticultura : Técnica y economía de los cultivos de Rosáceas leñosas productoras de fruta / M. Coutanceau . 3ªed./ Traducción, adaptación y prólogo de la 1ªedición española [por] Juan Simarro , ampliación y puesta al día de la 2ª y 3ª edición española [por] Antonio J. Felipe Mansergas Barcelona : Oikos-Tau, 1977 (reimp.1997)

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La qualite gustative des fruits: méthodes pratiques d'analyse / auteurs, Françoise Alavoine...[et al.] . Aix en Provence : CEMAGREF, 1988

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