

## 28934 - Ornamental crops

### Syllabus Information

**Academic Year:** 2019/20

**Subject:** 28934 - Ornamental crops

**Faculty / School:** 201 - Escuela Politécnica Superior

**Degree:** 437 - Degree in Rural and Agri-Food Engineering  
583 - Degree in Rural and Agri-Food Engineering

**ECTS:** 6.0

**Year:** 3

**Semester:** Second semester

**Subject Type:** Optional

**Module:** ---

### 1.General information

#### 1.1.Aims of the course

#### 1.2.Context and importance of this course in the degree

#### 1.3.Recommendations to take this course

### 2.Learning goals

#### 2.1.Competences

#### 2.2.Learning goals

#### 2.3.Importance of learning goals

### 3.Assessment (1st and 2nd call)

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

### 4.Methodology, learning tasks, syllabus and resources

#### 4.1.Methodological overview

This course develops knowledge of ornamental crop production. Special emphasis will be placed on (1) nursery in-ground and protected cultivation techniques including and irrigations, fertilization and light management, and (2) cut flower production, biotechnological methods and cultural practices associated.

#### 4.2.Learning tasks

The course includes the following learning tasks:

- Theoretical dissertation,
- Practical sessions,
- Written coursework, and
- Formal examinations related to ornamental crop production.

#### 4.3.Syllabus

The course will address the following topics:

Section I. Economic importance of ornamental species.

Production of ornamental flowers and plants in Europe. Production of ornamental flowers and plants in Spain. Production centers. Surfaces. Value and characteristics of production. Marketing systems and formats. Market evolution. Foreign

trade. (2 hours.)

#### Section II. Materials and facilities.

Substrata for ornamental plant cultivation. Containers. Premises. Irrigation and fertigation systems. Climatic control. Special facilities. (6 hours.)

#### Section III. Cultural practices: propagation and cultivation methods.

Propagation: seeds, cuttings, bulbs, layering. Planting out, transplants. Pinching and pruning. Application of hormones and similar products. Application of biotechnology to the production of ornamental plants. Plagues and diseases. Dispatch. (8 hours).

#### Section IV- Cultivation of ornamental species for cut flower production.

Floriculture. Woody plants; rose cultivation. Herbaceous plants; carnation cultivation. Bulbous plants; gladioli cultivation. Other cut flower species of interest at a national level. (6 hours).

#### Section V- Cultivation of ornamental species for live plant production.

Growing in plant pots; interior and exterior plants. Ornamental trees and shrubs. Growing bulbs. Regulations and quality standards for ornamental production. (8 hours).

#### Practical Programme

##### 1- Practical laboratory experience. (20 hours).

Practical experience in laboratory/greenhouse; propagation. Recognition of substrata, containers, and materials relating to ornamental cultivation. Recognition of cut flower species. Recognition of ornamental trees. Recognition of ornamental shrubs. Recognition of ornamental bulbs. Recognition of grasses, creepers and ground cover.

##### 2- Visits to commercial ornamental plant nurseries. (16 hours).

Field trips are considered to be a cross-curricular educational activity. Their specific programming will take place over the duration of the course and will be published on the Moodle platform of each specific subject. Where possible, the technical visits will be coordinated with other course subjects with the objective of optimizing resources.

### 4.4.Course planning and calendar

Week	1	2	3	4	5	6	7	SS	8	9	10	11	12	13	14	15
Lectures	Bl.I	Bl. II	Bl. II	Bl. II	Bl. III	Bl. III	Bl. III		Bl. III	Bl. IV	Bl. IV	Bl. IV	Bl. V	Bl. V	Bl. V	Bl.
Hours	2	2	2	2	2	2	2		2	2	2	2	2	2	2	2
Laboratory sessions																
Hours		2	-	-	-	2	2		2	2		-	-			
Technical visits	visits 1 , 2, 3							visits 4,5,6								
Hours	10							10								
Individual work	5	4	5	8	5	5	5	8	5	5	5	5	5	4	6	7

### 4.5.Bibliography and recommended resources

- BB** Flora ornamental española : plantas cultivadas en la España peninsular e insular. Vol.1, Magnoliaceae a Casuarinaceae / coordinador, José Manuel Sánchez de Lorenzo Cáceres . Sevilla : Junta de Andalucía, Consejería de Agricultura y Pesca ; Madrid : Mundi-Prensa ; Madrid : Asociación Española de Parques y Jardines Públicos, 2000
- BB** Flora ornamental española : plantas cultivadas en la España peninsular e insular. Vol.2, Cactaceae-Cucurbitaceae / coordinador, José Manuel Sánchez de Lorenzo Cáceres . Sevilla : Junta de Andalucía, Consejería de Agricultura y Pesca ; Madrid : Mundi-Prensa ; Madrid : Asociación Española de Parques y Jardines Públicos, 2000
- BB** Guía de árboles y plantas de jardín : las plantas idóneas para jardín / asesores Tony Rodd y Geoff Bryant. Barcelona : Omega, cop. 2009
- BB** Material vegetal en paisajismo mediterráneo. Vol. 1 : Máster en Jardinería y Paisaje : Valencia, noviembre 2011 / editores Juan José Galán Vivas, Vicente Caballer Mellado. Valencia : Universitat Politècnica de València, 2012

- BB** Sánchez de Lorenzo Cáceres, José Manuel. Guía de las plantas ornamentales / José Manuel Sánchez de Lorenzo Cáceres . Madrid [etc.] : Ediciones Mundi-Prensa, 2001
- BB** Urrestarazu Gavilán, Miguel. Manual práctico del cultivo sin suelo e hidroponía / [Miguel Urrestarazu Gavilán] . Madrid : Mundi-Prensa, D.L. 2015
- BC** Fertirrigación : cultivos hortícolas, frutales y ornamentales / obra colectiva dirigida y coordinada por Carlos Cadahía . 3ª ed. rev., act. y ampl. Madrid [etc.] : Mundi-Prensa, 2005
- BC** Normas Tecnológicas de Jardinería y Paisajismo [Recurso electrónico] : NTJ / Colegio Oficial de Ingenieros Técnicos Agrícolas y Peritos Agrícolas de Cataluña . Barcelona : Colegio Oficial de Ingenieros Técnicos Agrícolas y Peritos Agrícolas de Cataluña, 2003-2007
- BC** NTJ 03S (1999). Sustentación artificial y protección del arbolado. Barcelona: Colegio Oficial de Ingenieros Técnicos Agrícolas de Cataluña
- BC** NTJ 08E (1994). Trasplante de grandes ejemplares. Barcelona: Colegio Oficial de Ingenieros Técnicos Agrícolas de Cataluña
- BC** NTJ 11E (1999). Cubiertas ecológicas extensivas. Barcelona: Colegio Oficial de Ingenieros Técnicos Agrícolas de Cataluña
- BC** NTJ 12S (2012). Obras de bioingeniería: técnicas de protección superficial. Parte 1. Barcelona: Colegio Oficial de Ingenieros Técnicos Agrícolas de Cataluña
- BC** NTJ 14B (2013). Mantenimiento de palmeras. Barcelona: Colegio Oficial de Ingenieros Técnicos Agrícolas de Cataluña
- BC** Stoecklein, Marc C.. The complete plant selection guide for landscape design / Marc C. Stoecklein . 2nd. ed. West Lafayette (Indiana) : Purdue University Press, cop. 2011

#### **LISTADO DE URLS:**

Guía visual de plantas de Jardín - [[http://www.guiaverde.com/downloads/mmd\\_es/index.html#/2/zoomed](http://www.guiaverde.com/downloads/mmd_es/index.html#/2/zoomed)]

The updated recommended bibliography can be consulted in:

<http://psfunizar7.unizar.es/br13/egAsignaturas.php?codigo=28934&Identificador=14195>