

## 28930 - Horticultural production

### Syllabus Information

**Academic year:** 2023/24

**Subject:** 28930 - Horticultural production

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

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

**ECTS:** 6.0

**Year:**

**Semester:** Second semester

**Subject type:** Optional

**Module:**

### 1. General information

The general objective of the subject is to acquire the basic knowledge of horticultural production (species, origin, plant material, production requirements, necessary infrastructures, use, post-harvest management, etc.).

Specific objectives:

To know the crop calendars and edaphoclimatic requirements of the main horticultural species.

Initiate in the calculation of the main elements of climate control in greenhouses.

To provide knowledge on the main substrates and production methods used in horticulture.

Introduce to the knowledge of the production methods of the most relevant horticultural species cultivated in Spain. These objectives are aligned with some of the Sustainable Development Goals of the 2030 Agenda and certain goals, specifically, goal 2, target 2.3

### 2. Learning results

The student should know, understand and use the principles of horticultural production technology. You should explain the main characteristics of plant material used in horticultural crops and describe the basis and technology of propagation, cultivation, marketing and quality control of horticultural products. They should also be able to solve the climate control of a greenhouse.

It should also apply the basic knowledge of "visu" recognition of plant material.

All of these learning goals contribute to achieving SDG 2: Zero hunger.

Horticultural crops occupy a small area but use a large amount of labor and inputs, obtaining products that can have high added value and are especially important in intensive production systems therefore, a graduate in Agri-Food and Rural Engineering who wants to specialize in Horticulture and Gardening should know the systems and the Gardening should know the systems and management of these crops.

All of this involves the acquisition of knowledge and the ability to solve issues related to target 2.3 associated with SDG 2.

In addition, the nature of this subject will enable the student to relate knowledge from other subjects and develop professional skills. The student will also be able to analyze and synthesize information, apply theory to practice, solve practical questions and problems, organize and plan, and generate new ideas for individual and groupwork.

### 3. Syllabus

-Introduction. Importance and main characteristics of the sector.

-Climatic factors in Horticulture: Radiation; Temperature; Climate modification in horticulture; Climate modification in horticulture

-Soil in horticulture.

-General horticultural cultivation techniques: Irrigation and fertilization.

-Harvesting of horticultural products. General rules. Collection systems. Conservation of products - Horticultural plants that can be used for their subway organs (carrot, potato, onion, garlic, asparagus, other minor crops of local relevance).

-Vegetable plants that can be used for their leaves (lettuce, endive, endive, borage, cabbage)

-Vegetable plants usable for their inflorescences (broccoli, cauliflower, artichoke)

-Horticultural plants usable for their fruits (melon, watermelon, tomato, bell pepper, strawberry, green beans and other pods).

-Cultivated mushrooms.

### 4. Academic activities

- Participative lectures 30 classroom hours.
- Greenhouse and laboratory/cabinet practices: 10 classroom hours.
- Visits to commercial horticultural plant farms/nurseries: 16 classroom hours.
- Supervised work and oral presentation. 4 classroom hours.
- Study for the written test, completion of the test and writing of the tutored work, a total of 90 hours of autonomous work of the student. For a better monitoring of the learning process, students will be encouraged to use tutoring hours, especially for the realization of tutored work.

These activities are subject to the budget available for their implementation.

All the necessary documentation for the follow-up of the course will be available on the Moodle2 platform.

## **5. Assessment system**

A single global assessment will be carried out with different assessment instruments, with the following distribution: Final exam 60 %

Coursework 20

Problem solving (10 h).

Report of the visits 10%

Seed and seedling recognition test: Passing the recognition exam is considered an essential requirement to pass the subject.

The detailed definition of the assessment system will be explained in the presentation of the subject.

The success rates for the subject in the last three years are: 2019/20: 100%; 2020/21: 100%; 2021/22: 100%