

60568 - Plant production systems

Syllabus Information

Academic year: 2024/25

Subject: 60568 - Plant production systems

Faculty / School: 201 - Escuela Politécnica Superior

Degree: 546 - Master in Agricultural Engineering

ECTS: 9.0

Year: 1

Semester: Second semester

Subject type: Compulsory

Module:

1. General information

The overall objective of this subject is for students to learn, develop and apply the technologies of plant production and integrated crop protection systems that allow them to achieve sustainability in the management of these systems.

These approaches and objectives are aligned with the following Sustainable Development Goals (SDGs):

- Goal 2: Zero Hunger.
- Goal 6: Clean Water and Sanitation
- Goal 12: Responsible Production and Consumption
- Goal 15: Life of Terrestrial Ecosystems.

Specifically in the following objectives: 2.3, 6.4, 6.3, 12.2 and 15.5.

2. Learning results

The subject "Plant Production Systems" should provide the student with sufficient knowledge about the techniques for planning, organizing, directing and controlling the production systems and processes developed in the agricultural sector. The learning results are aligned with the SDGs mentioned in section 1.1.

The subject should provide the tools and capabilities to ensure the competitiveness of enterprises, the protection and conservation of the environment, and the sustainable development of the rural environment. In addition, it will encourage autonomous learning and teamwork.

The competencies acquired in this subject are relevant in at least two senses:

One of the differential characteristics of the Master's Degree in Agricultural Engineering, with respect to other master's degrees in engineering, is the acquisition of competencies in plant production. Its most relevant aspects are acquired in this subject.

The global analysis of agricultural systems makes it possible to plan, organise, manage and control the production systems and processes developed in the agricultural sector within a framework that guarantees the competitiveness of companies, without forgetting the protection and conservation of the environment and the improvement and sustainable development of the rural environment.

3. Syllabus

Module I: Agricultural systems. Plant production systems in arid and semiarid zones.

I.1 Agricultural systems. Components.

I.2 Analysis of agricultural systems in arid and semiarid rainfed areas.

I.3 Analysis of irrigated agricultural systems in arid and semi-arid zones.

I. 4 Analysis of other agricultural systems.

Module II: Regulated production systems.

II.1 Integrated production and protection.

II.2 Organic farming.

Module III. Technologies applied to the management of agricultural systems.

III.1. Precision agriculture.

III.2. Conservation agriculture.

4. Academic activities

Theoretical sessions: expository and participative lessons.

Practical work in the laboratory: demonstrative-active-interrogative activities in which students will learn various techniques and procedures and will train their observation, analysis and critical thinking skills.

Field practice: visits to different places where the student will be able to observe and analyse some of the objects and processes studied in the classes. These activities are subject to the budget available for their implementation.

Tutorials: sessions, at the students' request, to solve any kind of doubts.

Non-presential activities.

Examinations preparation and exams. It includes the oral presentation of practical work.

5. Assessment system

Global test that will be divided into the following sections:

1. Written test at the end of the term (60%), according to the syllabus of the subject and according to the EPS (Higher Polytechnic School) exam calendar. The test will consist of:
 - a. Multiple choice questions.
 - b. Short questions to be developed in which the accuracy of the answer and the order in the writing will be valued.
2. Written and oral presentation of an practice report (25%). Each student will carry out a work in groups (2 or 3 students) that will be evaluated taking into account the learning process followed and the results obtained.
3. Written presentation of three reports, one for each field practice (15%). Each student will carry out an individual work, framed in the academically directed activities, which will be evaluated taking into account the learning process followed and the results obtained.

Students who wish to obtain a higher grade in sections 2 and 3 must take a theory exam on the same day as indicated in the exam schedule.

A minimum grade of 4 points out of 10 must be achieved in section 1.

Success rate

19/20	20/21	21/22	22/23
92,86%	100%	68,42%	92,86%

6. Sustainable Development Goals

2 - Zero Hunger
12 - Responsible Production and Consumption
15 - Life on Land