

Degree	Type	Year
Biotechnology	OB	1

Contact

Name: Roser Tolra Perez

Email: roser.tolra@uab.cat

Teachers

Albert Gargallo Garriga

Teaching groups languages

You can view this information at the [end](#) of this document.

Prerequisites

There are no prerequisites.

Objectives and Contextualisation

Objectives of the course

- 1) It integrates functional processes from different levels of organization to the entire plant.
- 2) It covers the bases of the functioning of the vegetable and its processes of regulation.
- 3) Establish the basis of the knowledge of the physiological functioning and processes of plants in view of their biotechnological use.

Learning Outcomes

1. CM03 (Competence) Work collaboratively in teams to solve problems and case studies in the field of biology.
2. KM02 (Knowledge) Describe the structure of the different parts of the cell and how they function.
3. KM03 (Knowledge) Recognise the differentiating elements between animals and plants, both from the cellular point of view and from the point of view of their physiology and functioning.
4. SM02 (Skill) Correctly interpret data and observations in the field of biology.

5. SM03 (Skill) Relate relevant scientific data in different areas of biology.

Content

Characteristics of the plant cell. Cell wall. Water relations and mineral nutrition of the plant. Absorption and transport of water and nutrients. Photosynthesis and related processes. Primary and secondary metabolism. Regulation of growth. Phytohormones. Sensory systems and regulation of flowering. Photoperiodism, thermoperiodism and vernalization. Fruiting and ripening of fruits and seeds. Germination. Plants under adverse conditions. Senescence and abscission. Biotechnological applications of plants.

Unless the requirements enforced by the health authorities demand a prioritization or reduction of these contents.

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Classes	15	0.6	KM02, KM03, SM02, SM03, KM02
Seminars	5	0.2	CM03, SM02, SM03, CM03
Type: Autonomous			
Personal work	48	1.92	KM02, KM03, SM03, KM02

The teaching methodology combines master classes, personal study and individual and team work

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Assessment

Continuous Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Classes	90%	6	0.24	KM02, KM03, SM02, SM03
Seminars	10%	1	0.04	CM03, KM03, SM03

The evaluation of the theoretical part will be done through two partial exams, and it is necessary to obtain at least a grade of ≥ 5 to make the average between the two. The minimum final grade to pass the subject must be 5. The grade corresponding to the theoretical part is 90% (45% for each partial test).

Each partial will include a mixed exam with several types of questions such as multiple choice, matching of concepts or brief explanations of certain concepts among others.

Attendance at seminars is mandatory. Participation, the quality of the work and/or problems solved and presented count for 10% of the final grade. Seminars are not made up.

Written tests can be passed with the eliminatory partial exams or with the make-up test. If a student does not take a partial exam or if they do take one and do not achieve a minimum grade of 5 (out of 10), this can be recovered in the final exam.

Students who wish to improve their final grade can do so by taking the final exam for the entire course. In this case, it is understood that the student renounces the previous qualifications and his final grade is calculated based on the new grade of the final exam and averaged with the seminar grade. It is not possible to improve the grade through assignments or other types of activities.

Non-Assessable: Students will obtain the grade of "Non-Assessable" when the assessment activities carried out have a weighting of less than 67% in the final grade

In the event that the subject is not passed, the student will have to present himself for the assessment of the partial theory tests and, in the event of having passed the seminars, the grade of these will be saved for the following courses until the total of the subject is passed.

Single assessment:

The single assessment consists of a single synthesis test on the contents of the entire theory program. The grade obtained in the synthesis test is 90% of the final grade of the subject, in the seminars the remaining 10%.

The single assessment test will be held coinciding with the same date set in the calendar for the last continuous assessment test and the same recovery system will be applied as for the continuous assessment.

To pass the subject, a minimum final grade of 5 out of 10 must be obtained in each of the parts (summary test and seminars).

Special cases

If for justified reasons (illness, death of a first-degree relative or accident, etc.) and by providing the corresponding official documentation, the student will have the right to take the test on another date that will be agreed between the affected student and the teaching staff. The degree coordination will intervene in the event that an agreement cannot be reached. Likewise, if for the same justified reasons, the student cannot take the evaluation tests at the assigned times, they may take them at special times to be agreed with the teaching staff.

Bibliography

Bibliografia

1) Fisiología Vegetal, J. Barceló et al., Ed. Piràmide, Madrid 2005 i següents

2) Plant Physiology, L. Taiz y E. Zeiger, Sinauer, Sunderland, MA (USA), 2006 i següents.

web links

3) <http://5e.plantphys.net/>

Campus Virtual de l'Autònoma Interactiva: <https://cv2008.uab.cat>

Software

No specific programs will be used.

Groups and Languages

Please note that this information is provisional until 30 November 2025. You can check it through this [link](#). To consult the language you will need to enter the CODE of the subject.

Name	Group	Language	Semester	Turn
(SEM) Seminars	411	Catalan	second semester	afternoon
(SEM) Seminars	412	Catalan	second semester	afternoon
(SEM) Seminars	413	Catalan	second semester	afternoon
(SEM) Seminars	414	Catalan	second semester	afternoon
(TE) Theory	41	Catalan	second semester	afternoon