

Degree	Type	Year
2500253 Biotechnology	OB	1

Contact

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Teachers

Merce Llugany Olle

Teaching groups languages

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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	CM03, KM02, KM03, SM02, SM03
Seminars	5	0.2	CM03, KM02, KM03, SM02, SM03
Type: Autonomous			
Personal work	48	1.92	CM03, KM02, KM03, SM02, SM03

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

Continous Assessment Activities

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

The evaluation of the master classes will be carried out through two partial exams. It is necessary to obtain at least a grade of 4 to make the average between the two, and the minimum final grade to pass the subject must be 5, considering the seminars as indicated above.

Attendance at seminars (SEM) is mandatory.

Each midterm will include a mixed exam with three types of questions: one for true/false, another to match concepts and a last one to explain the concepts of the exam. Each question will be graded out of 10 points and the average of all questions will be calculated to obtain the grade.

To participate in the recovery, the students must have been previously evaluated in a set of activities whose weight equals to a minimum of two thirds of the total grade of the subject or module.

Assessment criteria: The mark results from the qualification of the corresponding exam in the master classes (90%, which corresponds to 45% for each of the tests) and the participation and presentation of the seminars (10%).

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

In the case of not passing or not having been submitted to one or all of the partial exams, the student must present themselves to the recovery of those parts not surpassed, except for the seminars, which by their nature are not recoverable (article 112 ter of the regulations of evaluation).

In the event that the subject is not passed, it will be necessary for the student to submit to the evaluation of the partial proofs of theory and, in the case of having passed the seminars, the grade will be saved for the course or following courses until you approve the total of the subject. Likewise, if the whole theory is overcome but not the seminars, it will be necessary to repeat them the next course, while the theory note will be saved.

Examination-based assessment.

The single assessment consists of a single synthesis test on the contents of the entire theory program.

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

To pass the subject it is necessary to obtain a minimum final grade of 5 points out of 10 in each of the parts (synthesis test, and Seminars)

Special cases: The duly justified special cases will be solved individually with the teacher of the subject.

For all cases not included in the previous sections or in case of doubt, the Evaluation Regulations of the Faculty of Biosciences will prevail.

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.

Language list

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

PROVISION