

Biotechnological Project or Industrial Placement

Calendar: 6th semester

Contact Hours: TP: 30,0; S: 15,0; OT: 60,0

Intended learning outcomes of the curricular unit:

The curricular internship is a fundamental tool and opportunity for finalist students to use their acquired knowledge over the course. The student is integrated into a work group in research institutes, biotechnology companies or faculties and it is expected that he develops part of a project and skills, with initiative and critical judgment.

In the case of the student chooses a biotechnological project, the main aim is to introduce the initiative and methodic spirit for the accomplishment of a conception project. It is aimed to stimulate the enterprising capacity and create skills for students to be the agents of change anywhere they work. In particular, the project aims to develop the ability to research and solve problems, enhance the synthesis capacity and knowledge integration, leadership and critical spirit.

Syllabus:

1.Biological industry in Portugal. 2.Market study. 3.Location and instalation Plant 4.Manufacture process selection 5.Process description: diagrams; mass and energy balance; equipment description; control and instrumentation. 6.Organization. 7.Project economic study: Investment and financement; exploration costs; circulating capital; commercial costs; sale critical point; economic evaluation. 8. Seminars.

Demonstration of the syllabus coherence with the curricular unit's intended learning outcomes.

The contents of this curricular unit refers to the topics to analyze/study in a biotechnological Project and possibly in a curricular internship.

Contents will be approached in a dynamic manner based in research, interpretation and analysis of scientific articles and patents. In the case of a curricular internship, the field work also uses the same contents referred in the above section (3.3.5).

Teaching methodologies (including evaluation):

Each student, should choose a biotechnological Project from available information in a script (includes patents). In addition, the student must make the required adjustments and corrections, in order to perform an economic analysis of the project. After discussion with the supervisors, alteration should be made, observing their impact on the economic analysis. Students should also perform mass and energy balances to each piece of equipment, as well as to scale up them.

In the case of a curricular internship, students must choose, propose and contact companies, faculties where they would like to work. They should also write a work plan to be discussed with the supervisors.

The evaluation is performed upon the delivery of a written report in an informatics support and further presentation and discussion.

Demonstration of the teaching methodologies coherence with the curricular unit's intended learning outcomes.

We will make use of interactive methodologies, involving students in teaching and learning processes, centered in the quest and in the qualitative and quantitative analysis of scientific articles. Moreover, the involvement of students in projects coordinated by the teacher of the course or in the curricular internship allows the bridge between the theory and practice of scientific research.