

# Teaching guide

## IDENTIFICATION DETAILS

Degree:	Biotechnology		
Field of Knowledge:	Science		
Faculty/School:	Experimental Science		
Course:	BIOCHEMICAL ENGINEERING		
Type:	Compulsory	ECTS credits:	6
Year:	2	Code:	2027
Teaching period:	Fourth semester		
Area:	Biotechnological Process Engineering		
Module:	Biotechnological Tools		
Teaching type:	Classroom-based		
Language:	Spanish		
Total number of student study hours:	150		

## SUBJECT DESCRIPTION

## SKILLS

### Basic Skills

Students must have demonstrated knowledge and understanding in an area of study that is founded on general secondary education. Moreover, the area of study is typically at a level that includes certain aspects implying

knowledge at the forefront of its field of study, albeit supported by advanced textbooks

Students must be able to apply their knowledge to their work or vocation in a professional manner and possess skills that can typically be demonstrated by coming up with and sustaining arguments and solving problems within their field of study

Students must have the ability to gather and interpret relevant data (usually within their field of study) in order to make judgments that include reflections on pertinent social, scientific or ethical issues

Students must be able to convey information, ideas, problems and solutions to both an expert and non-expert audience

Students must have developed the learning skills needed to undertake further study with a high degree of independence

### **General Skills**

To acquire firm theoretical, practical, technological and humanistic training needed to develop professional activity.

To acquire essential engineering knowledge for designing and scaling instruments needed to develop a biotechnological process.

To have acquired the ability for analytical, synthetic, reflective, critical, theoretical and practical thought.

Capacity for problem-solving and decision-making.

To understand the fundamental laws and principles of physics, mathematics, chemistry and biology as the foundation for the mental structure of a biotechnician.

To acquire the skills needed for experimental work: design, preparation, the compilation of results and the obtainment of conclusions, understanding the limitations of an experimental approach.

### **Specific skills**

To calculate and accurately interpret the relevant parameters in the phenomena of transport and different balances of material and energy in bio industrial processes.

To acquire the technological and engineering knowledge needed in process design.

To be familiar with and understand the structure and function of enzymes and their applications in the biotechnological industry.

To be able to describe, quantify, analyse and critically assess the results of experiments performed in the laboratory.

To be able to approach a subject by means of rigorous, profound and comprehensive thought.

To be able to apply the theoretical knowledge acquired for solving problems and practical cases linked to the various subjects.

To be able to work in a team in an efficient and coordinated manner.

### **DISTRIBUTION OF WORK TIME**

CLASSROOM-BASED ACTIVITY	INDEPENDENT STUDY/OUT-OF-CLASSROOM ACTIVITY
60 hours	90 hours