

Teaching guide

IDENTIFICATION DETAILS

Degree:	Biotechnology
---------	---------------

Field of Knowledge:	Science
---------------------	---------

Faculty/School:	Experimental Science
-----------------	----------------------

Course:	WORK PLACEMENTS IN INSTITUTIONS
---------	---------------------------------

Type:	Curricular Internships
-------	------------------------

ECTS credits:	12
---------------	----

Year:	4
-------	---

Code:	2043
-------	------

Teaching period:	Eighth semester
------------------	-----------------

Area:	Work Placement
-------	----------------

Module:	Experimental Methods in Biotechnology
---------	---------------------------------------

Teaching type:	Classroom-based
----------------	-----------------

Language:	Spanish
-----------	---------

Total number of student study hours:	300
--------------------------------------	-----

SUBJECT DESCRIPTION

Todos los alumnos realizarán una estancia de una duración mínima de tres meses en una institución de investigación o empresa relacionada con investigación o gestión biotecnológica en España, Europa, América u Oceanía, con las que existe un acuerdo institucional. El alumno se incorporará a un proyecto ya en curso y deberá integrarse en el equipo realizando los experimentos y/o diseñando el desarrollo de las aplicaciones propuestas de forma independiente. El alumno participará de las actividades que se le planteen en la institución y presentará sus resultados e informes a los tutores asignados tanto en la institución como en la Universidad.

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 be aware of the theoretical and practical foundations underpinning the conception of enterprise, its organisation, its operation, the obtainment of returns and organisational structure.

To understand the ethical implications of professional and personal activity.

Capacity for teamwork and group management.

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

Capacity for problem-solving and decision-making.

To be able to plan time effectively.

To foster a concern for knowledge as a key tool in the personal and professional growth process of a student.

To develop capacity for and a commitment to learning and personal development.

To develop an ability to search for, take in, analyse, sum up and relate information.

To develop oral and written communication skills.

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.

To apply theoretical, practical and human knowledge acquired at the university on training placements at research centres and biotechnological companies.

Specific skills

To be able to apply the most widely used instrumental techniques in a biotechnology experimentation laboratory: chromatography, electrophoresis, absorption, cytometry, purification and quantification of macromolecules, centrifugation, etc.

To understand and be able to apply the molecular tools needed to develop research projects and to design industrial biotechnological processes.

To be able to join a research project in the biotechnological area and conduct experiments and/or design applications in an independent manner.

To be able to design and suitably execute an experimental protocol based on theoretical knowledge in a host of subjects.

To be familiar with and apply the rules and general principles of health and safety in laboratories.

To organise and suitably plan work in the laboratory.

To identify and define laboratory instruments and materials.

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.

Capacity for written and oral communication of the knowledge acquired.

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.

To be able to assess the knowledge acquired.

To analyse and sum up key ideas and content regarding all manner of texts; to discover the theses incorporated within them and the issues raised; and to make critical judgments about their form and content.

To develop criteria for problem-solving and decision-making both professionally and personally.

To nurture an attitude of intellectual curiosity and a quest for truth in all areas of life.

To be able to negotiate and sell a personal project.

To be able to apply the foundations and conceptual instruments to establish dialogue between different positions as a guarantee of healthy civil coexistence.

DISTRIBUTION OF WORK TIME

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