

# Teaching guide

## IDENTIFICATION DETAILS

Degree:	Biotechnology		
Field of Knowledge:	Science		
Faculty/School:	Experimental Science		
Course:	INTEGRATED LABORATORY I		
Type:	Compulsory	ECTS credits:	6
Year:	1	Code:	2018
Teaching period:	Second semester		
Area:	Work Placement		
Module:	Experimental Methods in Biotechnology		
Teaching type:	Classroom-based		
Language:	English		
Total number of student study hours:	150		

## SUBJECT DESCRIPTION

Laboratory 1 Course is a compulsory semester course which comprises 150 hours and it is taught during the first year of the Biotechnology Degree. The course is part of the Practicum subject, which belongs to the Experimental Methods in Biotechnology module.

The lab work will be performed within the University labs and has been designed as real-life, professional experimental situations, from the different subjects taken during the 1st year.

The course is intended to provide the students not only with the basic laboratory skills needed in a biotechnology

or bioscience lab, but also to develop other personal qualities among them such as critical thinking, accuracy and teamwork, which are essential in research practice.

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

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

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 work suitably in a laboratory with biological material (bacteria, fungi, viruses, animal and plant cells, plants and animals) and with regard to the safety, handling and disposal of biological waste.

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.

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.

## DISTRIBUTION OF WORK TIME

CLASSROOM-BASED ACTIVITY	INDEPENDENT STUDY/OUT-OF-CLASSROOM ACTIVITY
73 hours	77 hours