

**Basic Instrumental Techniques**

Code: 100879  
ECTS Credits: 3

Degree	Type	Year	Semester
2500252 Biochemistry	OB	1	1

**Contact**

Name: Maria Margarita Julia Sape  
Email: Margarita.Julia@uab.cat

**Use of languages**

Principal working language: catalan (cat)  
Some groups entirely in English: No  
Some groups entirely in Catalan: No  
Some groups entirely in Spanish: No

**Other comments on languages**

És recomanable que els alumnes tinguin un coneixement de la llengua anglesa suficient com perquè puguin consultar sense dificultat les fonts bibliogràfiques i els recursos educatius on-line que anirà proposant la professora al llarg de l'assignatura.

**Prerequisites**

There are no prerequisites for this course. The student is advised to refresh the chemistry and biology knowledge acquired during the "batxillerat".

**Objectives and Contextualisation**

The general objective of this course is to familiarise the student with the basic techniques used in the biochemistry/molecular biology laboratory.

**Content**

- Introduction to the biochemistry lab. Safety, good practices, laboratory notebook, use of materials and chemicals, quantitative transfer of liquids, statistical analysis, informatics tools.
- Buffers, electrodes, biosensors. Sample preparation techniques. Radioisotopes.
- Centrifugation. Basic principles. Instrumentation: low, high speed and ultracentrifugation. Applications, subcellular fractionation.
- Chromatography. Basic principles, main types and applications.
- Spectroscopy. Basic principles: Beer-Lambert law. Basic methods: UV, visible and fluorescence. Applications, quantification of proteins.
- Nucleic acid analysis. Isolation and characterisation of DNA. Nucleic acid amplification: the polimerase chain reaction (PCR). Basic principles and applications.
- Immunological techniques. Antibody production, enzyme-linked immunosorbent assay (ELISA), immunofluorescence, Western blot, fluorescent activated cell sorting (FACS).