

Academic Year: (2024 / 2025)

Review date: 01-02-2024

Department assigned to the subject: null

Coordinating teacher:

Type: Compulsory ECTS Credits : 6.0

Year : 2 Semester : 2

DESCRIPTION OF CONTENTS: PROGRAMME

1. Introduction to laboratory work. Safety rules. Presentation and use of basic laboratory equipment. Introduction to the clinical environment.
2. Design and implementation of experimental protocols. The scientific method. Collecting results, obtaining conclusions and drawing up reports, understanding the limitations of the experimental method used.
3. Introduction to experimental and laboratory approaches. Levels of structural complexity: molecular, sub-cellular, cellular, tissue, organ and whole organism levels.
4. Biochemical techniques.
5. Separation techniques (Electrophoresis, Chromatography). Detection and quantification techniques (Mass spectrometry, MALDI/TOF).
6. Obtaining, handling and molecular techniques based on nucleic acids.
7. Advanced biomolecular titration techniques. Omics.
8. Basic immunological techniques
9. Basic microbiological techniques
10. Experimental cell and tissue techniques
11. Histopathology and immunohistochemistry. Advanced spatial imaging and microscopy.
12. Neuropsychological and behavioural testing.
13. Electrophysiological methods for the study of the nervous system.
14. Electromyography and somatosensory evaluation.
15. Invasive techniques for the study of the Nervous System.
16. Imaging technologies (X-ray, CT, PET, MRI).

LEARNING ACTIVITIES AND METHODOLOGY

Classroom lectures.
 Face-to-face classes: reduced (workshops, seminars, case studies).
 Student individual work.
 Laboratory session.
 Final exam.

Seminars and lectures supported by computer and audiovisual aids.
 Practical learning based on cases and problems, and exercise resolution.
 Individual and group or cooperative work with the option of oral or written presentation.
 Individual and group tutorials to resolve doubts and queries about the subject.
 Internships and directed laboratory activities.

ASSESSMENT SYSTEM

% end-of-term-examination:	60
% of continuous assessment (assignments, laboratory, practicals...):	40
Final exam.	
Continuous evaluation.	

