

External Practicum

Code: 100899
ECTS Credits: 12

| Degree | Type | Year | Semester |
|----------------------|------|------|----------|
| 2500252 Biochemistry | OT | 4 | 0 |

Contact

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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

The use of English in the report may be assessed with up to additional 0,5 points in the evaluation of the final report.

Teachers

Emili Itarte Fresquet
Pedro Suau León

Prerequisites

To apply for the program, you are required to have passed the degree first year and, at least, 120 credits out of 180 credits in the first three years.

In addition, you must be enrolled at the time when you start the internship and have paid the fees for the accident and civil liability insurance, as informed in the tax regulations.

Objectives and Contextualisation

This is an elective course that should be taken preferably during the fourth year or the summer after finishing the programmed activities of the degree third year.

The objectives of the course are:

- . To promote the integration of the student in the corporate world or in a research group, either in a public or private institution.
- . To know and to apply biochemical or molecular biology techniques that are typically used in a industrial setting or in specific research projects.
- . To prepare a report on the practice internship in an autonomous manner.

Skills

- Apply general laboratory security and operational standards and specific regulations for the manipulation of different biological systems.
- Apply the principal techniques used in biological systems: methods of separation and characterisation of biomolecules, cell cultures, DNA and recombinant protein techniques, immunological techniques, microscopy techniques, etc.
- Collaborate with other work colleagues.
- Combine research and the generation of knowledge with problem-solving in one's own field, showing sensibility to ethical and social questions.
- Design and prepare laboratory protocols, including health and safety aspects.
- Design experiments and understand the limitations of experimental approaches.
- Integrate knowledge of biochemistry and molecular biology with that of microbiology and biochemical engineering, especially in their application to biotechnological processes.
- Make an oral, written and visual presentation of one's work to a professional or non-professional audience in English and understand the language and proposals of other specialists.
- Read specialised texts both in English and one's own language.
- Show a capacity for leadership.
- Take responsibility for one's own learning after receiving general instructions.
- Use clinical laboratory techniques to determine biochemical and genetic markers of different pathologies and critically assess the results, speculating on the nature of any possible underlying pathologies.
- Use ICT for communication, information searching, data processing and calculations.

Learning outcomes

1. Apply the techniques of clinical analysis and molecular genetics in a clinical laboratory or a biomedical research laboratory.
2. Collaborate with other work colleagues.
3. Combine research and the generation of knowledge with problem-solving in one's own field, showing sensibility to ethical and social questions.
4. Comply with the operational rules and the rules on chemical and biological safety in a biochemistry laboratory.
5. Contrast and apply theoretical knowledge within a real biotechnological business.
6. Design experiments and understand the limitations of experimental approaches.
7. Draw up laboratory protocols in a professional context, making use of the theoretical knowledge acquired.
8. Make an oral, written and visual presentation of one's work to a professional or non-professional audience in English and understand the language and proposals of other specialists.
9. Put into practice, in a professional context, techniques from various experimental areas of biochemistry and molecular biology.
10. Read specialised texts both in English and one's own language.
11. Recognise and describe quality assurance systems in R&D+I and production processes.
12. Show a capacity for leadership.
13. Take responsibility for one's own learning after receiving general instructions.
14. Use ICT for communication, information searching, data processing and calculations.

Content

The contents of this course is variable, depending on the specific institution in which the student internship takes place.

However, in all cases, the contents of the proposed activity should keep a close relationship with Biochemistry and Molecular Biology, be it in a company or in a research group.

Two kinds of positions exist:

Modality A: Internal positions UAB

Modality B: External positions

Students in Modality A should have an academic tutor.

Those in modality B should be tutored by a member of the course teaching staff and by an external tutor.

The course can be taken in either one of the following periods: summer of 3rd year, 1st semester of 4th year, 2nd semester of 4th year, or summer of 4th year.

Methodology

The students may find all the relevant course information, how to apply for an internship position, and all the procedures to follow after the position is assigned, in the website of the Facultat, section "Pràctiques Acadèmiques en Entitats".

Each academic year, the Facultat will organize an orientation session for third and fourth year students enrolled in the degrees offered by the Facultat de Biociències.

Activities

| Title | Hours | ECTS | Learning outcomes |
|-------------------------|-------|------|---|
| Type: Supervised | | | |
| Practice internship | 280 | 11.2 | 14, 1, 2, 5, 6, 7, 10, 9, 11, 4, 3, 8, 13, 12 |

Evaluation

The course assessment will include the following items:

- The evaluation of the final written report prepared by the student (weight in the final score: 40%). The use of English in the report will be considered for up to additional 0.5 points in this section.
- The evaluation report on the student's performance issued by the Academic Tutor (Modality A) / External Tutor (modality B) (weight in the final score: 60%).

The final written report must be delivered to the course coordinator not later than 15 days after the end of the stay. In exceptional cases, which must be authorized by the course coordinator, this period may be extended up to a maximum of 30 days.

In order for the student to be evaluated, the course coordinator must receive the tutor's evaluation report and the written report prepared by the student. If any of these requirements is not met, the student's grade will be "No evaluable".

The instructions for the preparation of the final written report can be found in the Facultat de Biociències website, section "Pràctiques Acadèmiques en Entitats".

Evaluation activities

| Title | Weighting | Hours | ECTS | Learning outcomes |
|---|-----------|-------|------|---|
| Evaluation report by academic or external tutor | 60 | 0 | 0 | 14, 1, 2, 5, 6, 7, 10, 9, 11, 4, 3, 8, 13, 12 |

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|--------------------------------|----|----|-----|--|
| Final student's written report | 40 | 20 | 0.8 | 14, 1, 2, 5, 6, 7, 10, 9, 11, 4, 3, 8, 13, 12 |
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Bibliography

The contents of the Bibliography list may vary depending on the specific work that each student performs during his/her practice internship and what he/she may need to prepare the final written report.