COURSE DATA

DATA SUBJECT

Code: 33158
Name: External internship
Cycle: Undergraduate Studies
ECTS Credits: 12
Academic year: 2025-26

STUDY (S)

Degree	Center	Acad. year	Period
1109 - Degree in Biochemistry and Biomedical Sciences	Facultat de Ciències Biològiques	4	Indefinite (Individuals)

SUBJECT-MATTER

Degree	Subject-matter	Character
1109 - Degree in Biochemistry and Biomedical Sciences	Prácticas externas	INTERNSHIPS

COORDINATION

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SUMMARY

Teaching in molecular biosciences promotes the training of professionals for the R & D private and the public sector, since much of the technological development and innovation in the field of biology, biomedicine and biotechnology is based on advances in molecular and cell biology. Thus, we propose "internships" in research centers, biotechnology companies, and hospitals. It is intended that students apply the skills acquired during the professional career to the work in areas of professional activity related to the degree. It also aims at providing students with a working experience in work teams, in particular company and institutional environments, and facilitating the future employability of the graduates.

The general objectives of the external practices are:

• Meet the professional world.

• Apply the skills acquired during the degree to professional activity.

• Group work in a professional environment.

• To facilitate employability of graduates.

PREVIOUS KNOWLEDGE

RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

1109 - Degree in Biochemistry and Biomedical Sciences

Obligation to have previously passed the subject(s)	33119 - Chemistry 33120 - Biomolecular chemistry 33121 - Physics 33122 - Mathematics I 33123 - Mathematics II 33128 - Cellular organization 33129 - Intracellular dynamics and signaling 33132 - Macromolecular structure and enzymology 33133 - Bioenergetics 33135 - Macromolecular biosynthesis and its regulation 33136 - Genetics and cytogenetics 33138 - Methods in biochemistry 36346 - Introduction to Biochemistry and Molecular Biology 36347 - Biological Diversity 36348 - Molecular Biosciences: history, experimentation and society 36349 - Evolutionary Biology 36351 - Functional Histology

OTHER REQUIREMENTS

To have passed all mandatory subjects of the first and second years.
Comply with the explicit requirements that determine each work placement.

COMPETENCES / LEARNING OUTCOMES

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Acquire skills to use the methodologies of molecular biosciences and to keep an annotated record of activities.

Adquirir aptitudes profesionales idóneas.

Be able to think in an integrated manner and approach problems from different perspectives.

Capacidad de adaptación a situaciones nuevas.

Capacidad de iniciativa y liderazgo.

Capacidad de resolución de problemas y toma de decisiones.

Capacidad para el aprendizaje autónomo y organizado y para la adaptación a nuevas situaciones.

Capacidad para el trabajo multidisciplinar en equipo y la cooperación.

Capacidad para reconocer y resolver problemas, así como para tomar y ejecutar decisiones.

Desarrollar habilidades de cooperación con otros profesionales y capacidad de trabajo en equipo.

Desarrollo de habilidades para la aplicación de los conocimientos adquiridos al mundo profesional.

Develop an ethical commitment and the capacity to participate in the social debate.

Develop the capacity for organisation and planning.

Have capacity for analysis, synthesis and critical reasoning in the application of the scientific method.

Know how to design multidisciplinary experimental strategies in the field of molecular biosciences to solve complex biological problems, especially those related to human health.

Know how to work responsibly and rigorously in the laboratory, considering the safety aspects in experimentation as well as the legal and practical aspects of the handling and disposal of waste.

Reconocimiento, respeto y promoción de los derechos humanos fundamentales, especialmente los de igualdad, de los valores democráticos y de los valores propios de una cultura de paz.

Saber aplicar y desarrollar esa intervención.

Saber detectar necesidades y situaciones que requieran la intervención del profesional.

Saber identificar los recursos útiles que permitan llevar a cabo esa intervención.

Tomar conciencia del componente ético y los principios deontológicos del ejercicio de la profesión.

Tomar contacto con los aspectos rutinarios y menos atractivos de la profesión.

Understand the relationships between science and society and the position of molecular biosciences and biomedicine in the context of current science.

Understand the role of the expert in molecular biosciences and biomedicine in the scientific and social context.

DESCRIPTION OF CONTENTS

1. RESEARCH AND DEVELOPMENT

- **Areas of professional action**: Basic research laboratories R+D and R+D+i in the field of molecular biociencies: bioinformatics; development biology, transgenesis; structural biology, peptides and proteins, medical chemistry; biology and cell and tissue pathology; pathological anatomy; biochemistry and molecular biology, clinical biochemistry, metabolic pathology; food biotechnology; citomic, microscopy; Spanish Type Culture Collection; genetic engineering, sequencing; genetics and cytogenetics, prenatal diagnosis; immunology and hematology; genomic, proteomic, metabolomic; biomedical research, oncology, cardiovascular; genetic improvement in animals and plants; microbiology, virology, microbial pathogenesis; neurosciences; assisted reproduction; biomedicine image techniques; gene and cellular therapy.
- **Competencies or results of the learning process**: those indicated as General Competencies and Results of the Learning in the subjetc External Practices.
- **Company, institution or entity tutor profile**: Professional with experience in scientific research, handling of laboratory techniques and knowledge in specific areas of molecular biosciences and scientific development. It can be developed in research centers.

2. BIOINDUSTRY

- **Areas of professional action**: biomedical or biosanitary industry; agrifood, chemical, pharmaceutical, biochemistry area industry, or related to microbiology, toxicology, physiology, pharmacology, epidemiology and immunology. Service companies (diagnosis and molecular expertise, quality control, forensic biochemistry, cells of cells, tissues and organs, environment, etc.). Advice related to the implementation of biotechnological applications.
- **Competencies or results of the learning process**: those indicated as General Competencies and Results of the Learning in the subketc External Practices.
- **Company, institution or entity tutor profile**: expert in quality production and management in agrifood, chemical, pharmaceutical, biochemical, biomedical or microbiological industries. Biochemical professional in the biotechnological industry. Professional of trade and marketing of products and services related to molecular biosciences. It can be developed in companies.

3. HEALTH PROFESSIONAL

- **Areas of professional action**: clinical analysis laboratory, human reproduction, public health, nutrition and dietary, animal and plant health.
- **Competencies or results of the learning process**: those indicated as General Competencies and Results of the Learning in the subjetc External Practices.
- **Company, institution or entity tutor profile**: health professional in clinical laboratory, public health or nutrition, with experience in laboratory techniques and clinical analysis. It can be developed in clinical laboratories and public or private hospitals.

4. TEACHING AND DISSEMINATION

- **Areas of professional action**: information, documentation and scientific-technological dissemination related to molecular biosciences; teaching in secondary education and professional training in the subjects assigned to its degree.
- **Competencies or results of the learning process**: those indicated as General Competencies and Results of the Learning in the subjetc External Practices.
- **Company, institution or entity tutor profile**: teaching professional for secondary or higher education. Professional of information, documentation and scientific-technological dissemination in the field of molecular biosciences. It can be developed in schools, institutes, museums and press departments.

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at the internship centre	260,00
Attendance at supplementary activities	0,00
Monitoring and tutoring of internships	5,00
Total hours	**265,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Independent study and work	10,00
Preparation of supplementary reports	0,00
Preparation of the internship report and evaluation of the internship	25,00
Total hours	**35,00**

TEACHING METHODOLOGY

A list of companies/institutions offering positions will be published every year. The student will explicitly apply for external practices following the procedures and deadlines established by the corresponding committee. According to the activities developed in the company / institution an academic tutor of a department related to the area of expertise of the company will be assigned by the committee to mentor the student. University tutors will be responsible for explaining to the students the assessment criteria before the start of practices. The students will have to do 260 hours of work at the company / institution.

EVALUATION

Evaluation of this activity will take into account:

(a) A report of the supervisor in the company / institution, preferably by completing a questionnaire that will be provided by the university and which shall contain:

- Compliance with the estimated times.

- The ability to integrate into the working group.

- The measurement of the activity.

This assessment will represent 50% of the final grade.

(b) A written report submitted by the student and which will be evaluated by the tutor of the University, according to the criteria previously established in the first meeting with the student. In addition, the tutor of the University may conduct an interview with the student or with the external supervisor, or with both if appropriate.

REFERENCES