

Academic Year/course: 2022/23

68463 - Practical Training in external companies/centres

Syllabus Information

Academic Year: 2022/23

Subject: 68463 - Practical Training in external companies/centres

Faculty / School: 100 - Facultad de Ciencias

Degree: 626 - Máster Universitario en Biofísica y Biotecnología Cuantitativa/Biophysics and Quantitative Biotechnology

ECTS: 6.0

Year: 01

Semester: Second semester

Subject Type: Optional

Module:

1. General information

1.1. Aims of the course

The objective of this course is to introduce the students to professional environments related to the competencies they are acquiring in the Master's Degree in Biophysics and Quantitative Biotechnology, familiarizing them with the adaptation of the learning acquired in the classroom to professional environments.

The course and its expected results respond to the following approaches and objectives:

- Learning in a working environment, whether in business or research in public or private sectors.
- Knowledge of typical challenges of a company or a research centre must cope with.
- Partial objectives set by the tutor for each specific internship.
- Adaptation to the proposed schedule and work plan.
- Preparation of reports.

These approaches and objectives are aligned with the following Sustainable Development Goals (SDGs) of the United Nations Agenda 2030 (<https://www.un.org/sustainabledevelopment/es/>), so that the acquisition of the learning outcomes of the subject will be able to provide training and competence to contribute to some extent to their achievement.

- Goal 3: Health and well-being.
- Goal 4: Quality education.
- Goal 5: Gender equality.
- Goal 7: Affordable and clean energy.
- Goal 8: Decent work and economic growth.
- Goal 9: Industry, innovation and infrastructure.
- Goal 10: Reduction of inequalities.

1.2. Context and importance of this course in the degree

These internship stays will help the students to acquire first-hand knowledge of some of the work environments in which they might carry out their professional activity after finishing the Master.

1.3. Recommendations to take this course

- This is an optional curricular course for the second semester of the first year of the Master, which, according to the host centre, can be done either during that period or during the immediately following period after the first exams (mid june-mid july).
- The student will be assigned two tutors (one at the University and one at the company, entity or institution) with whom they must meet periodically.
- These tutors are in charge of supervising the tasks and activities carried out by the student and

assessing their learning.

- The student will prepare a report of the tasks and activities in which they have participated.

2. Learning goals

2.1. Competences

Passing this course the students will have developed skills such as:

Specific skills:

- Apply in a non-academic environment the knowledge acquired during the completion of the Master.
- Work autonomously attending to the particular security measures of the environment.
- Address and solve technical problems of biotechnological processes, contemplating different perspectives with qualitative and quantitative information.
- Autonomously design protocols of interest in the field of the degree according to the activity of the company or academic centre.
- Collaborate with other professionals and develop teamwork.

Basic skills:

- To develop technological applications of biochemical processes and transfer solutions to industry in the food, chemical, cosmetic, pharmaceutical and health sectors.
- To learn efficiently through autonomous study and acquire a significant degree of independence.
- To implement/use the acquired knowledge and solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to the area of study.
- To formulate, analyse, evaluate and compare new or alternative solutions for different problems
- Be able to work in multidisciplinary and international teams.
- Be able to develop a project, participating in the stages of bibliographic search, planning of experiments, obtaining results, interpreting, and disseminating them.

Transversal skills:

- To manage properly the resources and time available for solving a problem or developing a project
- To communicate own conclusions and the knowledge and ultimate reasons that support them - to specialized and non-specialized audiences in a clear and unambiguous way.
- To transmit information orally, written or graphically using appropriate presentation tools and with the limitations imposed by time or space.

2.2. Learning goals

The student, passing this course, will achieve the following results:

- Familiarization with work centres related to the degree.
- Knowledge of the type of typical challenges of a company or a research centre
- Achievement of partial objectives set by the tutor for each specific job/work
- Adaptation to the proposed schedule and work plan.
- Preparation of reports with the quality and precision required for each specific job.

2.3. Importance of learning goals

These internships will provide the student with contact with the real world of daily work in the particular environment in which they are carried out, being very useful for their future professional orientation. They will also increase technical and work skills that allow tackling new professional challenges.

3. Assessment (1st and 2nd call)

3.1. Assessment tasks (description of tasks, marking system and assessment criteria)

The student must demonstrate that has achieved the expected learning outcomes through the following assessment activities:

Report of the tutor in the collaborating entity

The tutor of the collaborating entity will send a report on the tutored student to the academic tutor, in which the number of hours dedicated by the student to the different tasks assigned will be indicated, relating the 140 hours that the student has to dedicate to the course in the entity. In this report the following aspects of the activities developed by the student will be assessed:

- a) Technical capacity.
- b) Learning ability.
- c) Administration and organization of tasks.
- d) Oral and written communication skills.
- e) Sense of responsibility and personal involvement.
- f) Ease of adaptation.
- g) Creativity, initiative and motivation.
- j) Receptivity to criticism.
- k) Punctuality and relations with the work environment.

Based on this report, the tutor in the company will issue an assessment for the student on a scale of 0 to 10. Each of the above mentioned items will contribute to 10% of the mark.

Student report on the activities carried out in the collaborating entity

The student will send to the academic tutor a summary report of the activities carried out in the collaborating entity. This report will have a maximum length of 4 pages and must not contain any type of information that may be confidential for the company. In this report the student will be able to express any other fact that he/she has to note about the development of his/her stay in the collaborating entity.

Academic tutor evaluation

The academic tutor will meet periodically with the student during the internship period, at least three times:

1. An initial meeting to discuss the training project that the student must develop
2. An intermediate follow-up meeting
3. A final meeting where the student will present, in a brief presentation, the report of activities carried out, and a subsequent debate on the report and presentation.

Based on the student's report and the meetings with the student, particularly the debate and final presentation, the academic tutor will issue an assessment for the student on a scale of 0 to 10.

The tutor will particularly value:

1. The student's knowledge and understanding of the activities carried out
2. The ability of the student to manage the new situations that he/she has faced and to transmit the skills that he/she has acquired

Global assessment of the course by the academic tutor

The final grade for the course will be contributed by: Report of the tutor in the company = 60%; Academic tutor report = 40%.

To pass the course it will be essential to have a 5 out of 10 in each of the computable sections, and 5 out of 10 in the overall mark.

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The learning process that has been designed for this course is based on the following:

External internships are activities of a formative/training nature carried out by students in collaborating entities (companies, institutions and public or private entities) at the national and international level, or at the University of Zaragoza.

4.2. Learning tasks

Carrying out tasks related to the degree in a professional environment, supervised by a tutor at the receiving institution and an academic tutor at the University of Zaragoza.

Preparation of a final report of activities, written with advice and approval of the tutor in the collaborating entity, and approved by the coordinator of external practices of the degree.

4.3. Syllabus

In this course there is no fixed program to develop, only that the internship is related to the Master and provides the students with some professional experience that enriches their training.

4.4. Course planning and calendar

Schedule of basic activities under the supervisor's guidance

The external internships will be carried out in collaborating entities. They will be carried out preferably in the second semester of the first course of the Master or, failing that, in the summer between the second and third semester. In any case, the period of completion will always be the one agreed with the specific entity where the internship student will be incorporated. Nonetheless, to have the records within the academic year, intensive internships should be carried out between the beginning of June and mid-July.

The date for the delivery of reports and interviews with the tutor, particularly the final evaluation, will be indicated by the academic tutor, taking into account the deadline for transferring the grades to the final records indicated by the School of Sciences.

4.5. Bibliography and recommended resources

There are no bibliographic records for this course.