

Academic Year/course: 2021/22

60043 - Internships

Syllabus Information

Academic Year: 2021/22

Subject: 60043 - Internships

Faculty / School: 100 - Facultad de Ciencias

Degree: 538 - Master's in Physics and Physical Technologies

589 - Master's in Physics and Physical Technologies

ECTS: 5.0

Year: 1

Semester: Annual

Subject Type: 538 - External Placements

589 - Optional

Module:

1. General information

1.1. Aims of the course

The course is designed so that at the end of the course the students:

-Acquire an integral formation complementing their theoretical and practical learning.

Learn the work methodology appropriate to the professional reality in which the students will have to operate and applying the acquired knowledge.

-Develop technical, methodological, personal and team skills.

-Obtain a practical experience that facilitates the insertion in the labor market and improves their future employability.

1.2. Context and importance of this course in the degree

This is a transversal subject aimed to all students who are considering the development of a career in scientific research or the exercise of their profession as qualified technologists in companies and technological centers, particularly in the fields of Physics and Physical Technologies.

The training plan of the subject must include activities clearly differentiated from other subjects of the degree, especially with respect to the Master's Thesis. The Quality Assurance Committee of the degree will ensure compliance with this rule in the proposal phase of the training plan and the coordinator of the course will ensure the adequacy of the activities developed to the proposed training plan.

1.3. Recommendations to take this course

This course does not require previous specific knowledge.

2. Learning goals

2.1. Competences

Upon passing the course, the student will be more competent to:

-Possess and understand knowledge that provides a basis or opportunity to be original in the development and/or application of ideas, often in a research context (CB6).

-That students know how to apply acquired knowledge and problem-solving skills in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their area of study (CB7).

-That students are able to integrate knowledge and face the complexity of making judgments based on information that, being incomplete or limited, includes reflections on the social and ethical responsibilities linked to the application of their knowledge and judgments (CB8).

-That students know how to communicate their conclusions and the ultimate knowledge and reasons that support them to specialized and non-specialized audiences in a clear and unambiguous way (CB9).

-That students possess the learning skills that will allow them to continue studying in a way that will be largely self-directed or autonomous (CB10).

-Competence to integrate as a researcher or qualified technician in research teams in different areas of Physics or other

experimental sciences or engineering (CE2).

-Consolidate advanced knowledge and the interrelation between the different fields of Physics and Physical Technologies (CE3).

-Integrate knowledge, face complexity and formulate judgments with limited information in the field of Physics and its Technologies (CE4).

-To deepen in the analysis, treatment and interpretation of experimental data (CE5).

-Know the degree of importance of research and industrial applications of Physics and its technologies, as well as their social, economic and legal implications (CE6).

-To deepen in a research topic and to know the most recent advances and current lines of research in that field (CE7).

-Apply the knowledge acquired in a non-academic environment.

-Encourage collaboration with other professionals and develop teamwork.

2.2. Learning goals

The student, in order to pass this subject, must demonstrate the following results:

-Achievement of partial objectives set by the tutor for each specific work.

-Adaptation to the proposed schedule and work plan.

-Knowledge of the environment in which the practice has been carried out.

-Development of technical reports.

2.3. Importance of learning goals

The possibility of doing external internships and recognizing optional credits for them is offered, which is a training complement of extraordinary value, both for future researchers and technologists.

3. Assessment (1st and 2nd call)

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

The student must demonstrate that he/she has achieved the expected learning outcomes by means of the following evaluation activities

The student must prepare a portfolio in electronic format that includes a report-summary of the external practices carried out of no more than 3000 words, containing the relevant information and all the activities developed: description of the tasks, evaluation of the adequacy of the tasks with the knowledge and competences, relation of the problems posed and the procedure followed for their resolution. The student must clearly justify the difference of the activities carried out with respect to other subjects of the master's degree, especially with respect to the Master's Thesis. The deadline for submission of the report will coincide with the deadline for the deposit of the Master's thesis in June and September. (70% of the grade).

The tutor of workplace will prepare a brief report that will include the number of internship hours and in which aspects such as technical capacity, learning capacity, oral and written communication skills, sense of responsibility, ease of adaptation, creativity, personal involvement, motivation, receptiveness to criticism, punctuality, relations with the work environment, teamwork capacity and any other aspects considered appropriate will be assessed (500 words maximum) The deadline for submitting this report will be the same as for the student's report. (30% of the grade).

The academic tutor and the subject coordinator will evaluate the external practices developed by filling out the corresponding final evaluation report that must take into account the monitoring carried out, the report of the tutor of the collaborating entity and the report submitted by the student.

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

In this course "Internships", students will have two tutors, one at the collaborating entity and another at the university. The first one will be vinculated to the collaborating entity, will have professional expertise and the required knowledge to supervise the student's work. The academic tutor will be a university professor teaching in the Master's degree.

The Commission of the Master's will guarantee the assignment of Collaborating Centers and academic tutors to the students enrolled in this course.

There is a course on the virtual platform Moodle for the management of the course information.

4.2. Learning tasks

The course includes the following learning tasks:

1. Elaboration of a working plan and acquisition of required scientific knowledge and techniques (1 ECTS). Students prepare a portfolio including tasks and activities.
2. Testing, experimental measurements, simulations, calculations, data processing, etc. (3 ECTS). The chosen methodology is based on case-based learning and team work.

3. Periodical meeting with the tutors (1 ECTS). Students prepare scientific documents.

4.3. Syllabus

There is no syllabus for this course.

4.4. Course planning and calendar

This course (5 ECTS) involves 125 hours of student dedication, including at least 100 working hours in the collaborating institution.

A dedication of 25 hours for regular tutorials and reporting is expected.

The submission of reports will coincide with the Master's dissertation submission dates.

Further information concerning the timetable, classroom, assessment dates and other details regarding this course, will be provided on the first day of class or please refer to the Faculty of Science <http://ciencias.unizar.es/>

4.5. Bibliography and recommended resources

http://biblos.unizar.es/br/br_citas.php?codigo=60043&year=2019