

External work placement

Code: 103269
ECTS Credits: 12

Degree	Type	Year	Semester
2501922 Nanoscience and Nanotechnology	OT	4	0

Contact

Name: Enric Menendez Dalmau

Email: enric.menendez@uab.cat

Teaching groups languages

You can check it through this [link](#). To consult the language you will need to enter the CODE of the subject. Please note that this information is provisional until 30 November 2023.

Prerequisites

To enroll in the subject, it is highly recommendable that students have completed 180 ECTS credits.

Objectives and Contextualisation

The main objectives of the course are to allow students to put into practice the knowledge acquired, to bring them closer to work environments and to help them with their future work integration.

Internships can only be carried out in the following entities: companies, spin-offs, start-ups, technology centers, large scale facilities such as ALBA synchrotron or Barcelona Supercomputing Center, scientific and technical services and technical divisions of universities and research centers. Internships may NOT be conducted in research groups at universities or research centers.

If the internships are done abroad, the range of entities is opened up and it is allowed to do them in research groups of universities or research centers.

Competences

- Adapt to new situations.
- Apply ethical principles and legislative standards to the field of nanoscience and nanotechnology.
- Apply the concepts, principles, theories and fundamental facts of nanoscience and nanotechnology to solve problems of a quantitative or qualitative nature in the field of nanoscience and nanotechnology.
- Apply the general standards for safety and operations in a laboratory and the specific regulations for the use of chemical and biological instruments, products and materials in consideration of their properties and the risks.
- Be ethically committed.

- Communicate orally and in writing in one's own language.
- Demonstrate knowledge of legislation on intellectual property in the field of knowledge and application of nanoscience and nanotechnology.
- Demonstrate knowledge of the concepts, principles, theories and fundamental facts related with nanoscience and nanotechnology.
- Handle the standard instruments and materials of physical, chemical and biological testing laboratories for the study and analysis of phenomena on a nanoscale.
- Interpret the data obtained by means of experimental measures, including the use of computer tools, identify and understand their meanings in relation to appropriate chemical, physical or biological theories.
- Manage the organisation and planning of tasks.
- Obtain, manage, analyse, synthesise and present information, including the use of digital and computerised media.
- Operate with a certain degree of autonomy.
- Reason in a critical manner
- Recognise the terms used in the fields of physics, chemistry, biology, nanoscience and nanotechnology in the English language and use English effectively in writing and orally in all areas of work.
- Resolve problems and make decisions.
- Show initiative and an enterprising spirit.
- Show motivation for quality.
- Show sensitivity for environmental issues.
- Work correctly with the formulas, chemical equations and magnitudes used in chemistry.
- Work on the synthesis, characterisation and study of the properties of materials on a nanoscale from previously established procedures.

Learning Outcomes

1. Adapt to new situations.
2. Apply ethical principles and legal standards to activities in the company during work experience.
3. Be ethically committed.
4. Communicate orally and in writing in one's own language.
5. Correctly apply concepts and theories related with nanoscience and nanotechnology to the professional world
6. Integrate acquired knowledge and skills to solve problems in the professional field.
7. Manage the organisation and planning of tasks.
8. Obtain, manage, analyse, synthesise and present information, including the use of digital and computerised media.
9. Operate with a certain degree of autonomy.
10. Produce a summary in English of the work done.
11. Produce an explanatory report of the results obtained in a professional study in fields related with nanoscience and nanotechnology.
12. Properly handle reagents and chemistry products.
13. Reason in a critical manner
14. Recognise the legal standards for activities in the company during work experience.
15. Resolve problems and make decisions.
16. Show initiative and an enterprising spirit.
17. Show motivation for quality.
18. Show sensitivity for environmental issues.
19. Show the necessary skill to develop synthesis and characterisation studies of materials in the professional field
20. Show the necessary skill to handle the instruments required for professional work in fields related with nanoscience and nanotechnology.
21. Work correctly with the formulas, chemical equations and magnitudes used in chemistry.

Content

The content of the internship will depend on the nature of the company or institution where the internship will be carried out.

Methodology

Internships can be done in either of the two semesters of the course or during the summer.

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If the internships are done abroad, the range of entities is opened up and it is allowed to do them in research groups of universities or research centers. In these cases, the agreement will be handled by the "Unitat de Mobilitat Professional Internacional" of UAB.

Duration of the internship: between 200 and 300 hours.

The institution can remunerate internships (optional).

The student must look for an organization where to carry out the internship (see the list of offers that you will find in the common space of the subject in the virtual campus). To do the internship, the entity does not need to appear in this list. In this situation, please discuss the feasibility of the chosen option with the coordinator.

Before starting the internship, students must enroll in the subject. To do so, students must hand in the "agreement" document. This document is an internal document of the university and is not the final agreement with the host entity. Students and the corresponding host entities must fill it out. Basically, you need to add the

Information about the host, the name of the person who will act as external tutor and the agreed work plan are the main required inputs. Once completed, this document must be sent to the person responsible for the subject so that he can review it and, if everything is correct, sign it. Then, students must send this signed document to Academic Management and begin the enrollment process, which also implies the establishment of insurance for the student and the final agreement between the university and the host. This registration process is relatively fast, it only takes a few days. To speed it up, it is recommended that students have the electronic signature activated.

All the information and all the documents can be found in the global subject area of the virtual campus.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
guided activities	40	1.6	1, 5, 6, 12, 3, 8, 14, 21
preparation of the report and the oral presentation	18	0.72	4, 17, 13, 11, 10
Type: Supervised			

supervised activities	61	2.44	1, 5, 2, 19, 20, 7, 6, 12, 3, 18, 13, 14, 15, 21
Type: Autonomous			
self-work	180	7.2	1, 5, 2, 16, 19, 20, 17, 7, 6, 12, 3, 18, 8, 9, 13, 14, 15, 21

Assessment

Before starting the internship, the coordinator will contact the student's external tutor to provide him/her with the template for the evaluation of the student. Upon completion of the internship, the student will prepare a written report following the template found in the common space of the subject in the virtual campus. The student will also have to prepare an oral presentation of the stay following the guidelines also found in the common space of the subject in the virtual campus. The assessment of the tutor of the entity will count for 40% of the mark, the written report will count for 35% of the mark, and the oral defense will count for 25% of the mark.

When approaching the evaluation period, the coordinator of the lecture will set the deadlines to submit the final report and the evaluations from the external tutor. Then, already in the evaluation period, the coordinator will inform the students about the day and time to carry out the oral presentation, which, in principle, will be done via Teams.

There are three assessment periods: (1) in January/February for students enrolled during the 1st semester, (2) in June/July for students enrolled during the 2nd semester, and (3) in September for students enrolled in the 2nd semester, but who have not finished their internship before June.

Students from the 3rd course who want to do the internship in summer will have to sign an enrollment commitment before starting the internship and will enroll in the 1st semester of the following year to be evaluated in January/February of the following year.

The evaluation process will focus on your integration, adaptation, organization and tasks performed. Please be careful and strict in presenting the scientific and technical parts but please do it in a concise manner.

If any of the three marks (tutor assessment, written report and oral defense) is less than 5, the student will have a grade of "Not assessable" and must enroll again in the next call of the academic year.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
oral presentation	25%	1	0.04	4, 17, 13
tutor evaluation	40%	0	0	1, 5, 2, 16, 19, 20, 17, 7, 6, 12, 3, 18, 8, 9, 13, 14, 15, 21
written report	35%	0	0	4, 8, 13, 11, 10

Bibliography

N/A.

Software

N/A.