

Degree	Type	Year	Semester
4314939 Advanced Nanoscience and Nanotechnology	OB	0	2

Contact

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Use of languages

Principal working language: english (eng)

Prerequisites

None

Objectives and Contextualisation

The objective of this module is to provide the student with tools to innovate and help and support scientific skills. Different forms of protecting new scientific research, information on modelling a new business case, and use of technical information are introduced.

Skills

- Analyse research results to obtain new products or processes, assessing their industrial and commercial viability with a view to transferring them to society
- Communicate and justify conclusions clearly and unambiguously to both specialised and non-specialised audiences.
- Manage intellectual property product research and development in nanoscience and nanotechnology, and make its commercial exploitation.
- Seek out information in the scientific literature using appropriate channels, and use this information to formulate and contextualise a research topic.
- Show expertise in using scientific terminology and explaining research results in the context of scientific production, in order to understand and interact effectively with other professionals.

Learning outcomes

1. Analyse research results to obtain new products or processes, assessing their industrial and commercial viability with a view to transferring them to society.
2. Communicate and justify conclusions clearly and unambiguously to both specialised and non-specialised audiences.
3. Describe the structure of a business plan, and argue the validity or otherwise of a business proposal.
4. Identify the advantages and disadvantages of the legal forms in which companies can be technology-based.
5. Indicate the stages of licensing intellectual property for commercial use.
6. Know the procedure for processing of a patent, the concepts that are patentable and the rights that flow from it.
7. Seek out information in the scientific literature using appropriate channels, and use this information to formulate and contextualise a research topic.

8. Show expertise in using scientific terminology and explaining research results in the context of scientific production, in order to understand and interact effectively with other professionals.

Content

During the course the following topics are to be covered:

- (i) Different forms of protecting research results
- (ii) Patents: structure, prosecution, infringement, licensing
- (iii) Patent information
- (iv) Spin-offs: business plans, creation of a company

Methodology

The objectives of the course are to be achieved by means of regular teaching, attendance to proposed seminars, working on projects and self-study.

Activities

Title	Hours	ECTS	Learning outcomes
Type: Directed			
Tutorial support sessions	20	0.8	1, 3, 4, 5, 6, 7, 8
Type: Autonomous			
Reading support materials	40	1.6	1, 2, 3, 4, 5, 6, 7, 8

Evaluation

In order to qualify for this course, the following items are to be considered:

- (i) business case project (passing this project (5/10) is required although it does not provide final mark)
- (ii) patent project (100%)

Attendance to class is to be taken into account for the final mark.

Evaluation activities

Title	Weighting	Hours	ECTS	Learning outcomes
Delivery of projects	100	90	3.6	1, 2, 3, 4, 5, 6, 7, 8

Bibliography

To be provided at the beginning of the course