

Course Unit	Product and Process Innovation		Field of study	Agro-Environmental and Food Technologies	
Master in	Product and Process Innovation - Agro-Environmental and Food Technologies		School	School of Technology and Management	
Academic Year	2023/2024	Year of study	1	Level	2-1
Type	Semestral	Semester	2	ECTS credits	10.0
Code	5057-683-1202-00-23				
Workload (hours)	270	Contact hours	T -	TP -	PL -
			TC -	S -	E -
			OT -	O	75

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s) Elsa Cristina Dantas Ramalhosa, Maria Filomena Filipe Barreiro, Pedro Miguel Monteiro Rodrigues, Vera Alexandra Ferro Lebres, Ângela Paula Barbosa da Silva Ferreira

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

1. Apply methodologies for the development of innovative products and processes.
2. Identify and evaluate existing technologies on the market.
3. Know procedures and regulations for the certification of new processes and products.
4. Know how to work in co-innovation environments, multidisciplinary and multicultural contexts.
5. Recognize opportunities in competitive and emerging markets.
6. Apply methodologies of investigation and data analysis.

Prerequisites

Not applicable

Course contents

Support innovation tools. Innovation in technology-based companies at the environmental and food level. Methodologies for research, analysis and data processing

Course contents (extended version)

1. Tools to support innovation
 - Classification and typologies of innovation (product, process, organizational and marketing).
 - Concept of innovative enterprise.
 - Circular economy; Sustainability; Life cycle analysis; Innovation by analogy
2. Innovation in technology-based companies at the environmental and food level
 - Strategies for placing innovative processes/products/services on the market
 - Know R&D agendas and strategies straight with the development of new processes and products.
 - Apply tools for the design and execution of projects based on timeline defined by industrial agents
 - Certification of food products
3. Research, analysis and data processing methodologies
 - Criteria for market-oriented research
 - Design and plan research projects
 - Concepts of techniques for data analysis and processing

Recommended reading

1. Pires, A. (1999). Inovação e Desenvolvimento de Novos Produtos. Sílabo.
2. Oliveira, C. A. (2010). Inovação da Tecnologia, do Produto e do Processo. Prime.
3. Van Wulfen, G. (2011). Creating Innovative Products and Services: The FORTH Innovation Method (1st Ed). Gower Publishing.
4. Pettenella, D. ; Ollonqvist, P. ; Slee, B. , Innovation in Forestry: Territorial and Value Chain Relationships, Gerhard Weiss, 2011.
5. Trott , P. , Innovation Management and New Product Development (6th edition), Pearson Education Limited, 2016.

Teaching and learning methods

Cooperative work among students, with research-oriented on the subjects under study. "Practice-based learning" strategies will be adopted, in particular by carrying out intellectual property, market and R&D strategies needed for the implementation of new products and processes in the area of ICE technologies. Visits to the IPB research centres will be promoted.

Assessment methods

- Continuous assessment - (Regular, Student Worker) (Final, Supplementary, Special)
- Practical Work - 30% (Practical works related to the main contents of the curricular unit.)
- Projects - 30% (Preparing projects and formalising applications.)
- Development Topics - 40% (Team working sessions with a discussion of topics on the development and management of the company.)

Language of instruction

1. Portuguese
2. English

Electronic validation

Ângela Paula Barbosa da Silva Ferreira, Elsa Cristina Dantas Ramalhosa, Maria Filomena Filipe Barreiro, Pedro Miguel Monteiro Rodrigues, Vera Alexandra Ferro Lebres	Hélder Teixeira Gomes	José Luís Sousa de Magalhães Lima	Ana Isabel Pinheiro Nunes Pereira	José Carlos Rufino Amaro
12-02-2024	13-03-2024	15-03-2024	15-03-2024	16-03-2024