Universitat Autònoma de Barcelona

2019/2020

Development and Innovation

Code: 103256
ECTS Credits: 6

Degree	Type	Year	Semester
2501925 Food Science and Technology	OB	3	2

Contact

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Use of Languages

Principal working language: spanish (spa)
Some groups entirely in English: No
Some groups entirely in Catalan: No
Some groups entirely in Spanish: No

Teachers

Victoria Ferragut Pérez
Gabriel Izard Granados
Xavier Salla Tranche

Prerequisites

Although there are no official requirements, it is advisable that the student has completed, I processing methods, economics, management and logistics in the food business, food products, process fundamentals, analysis and quality Food control, Basic operations, human nutrition, reactors, instrumentation and control and food and culture

Objectives and Contextualisation

To study the course successfully, it is necessary to have a clear idea of the concepts explained in the previous subjects. Specifically, studying new product development methodologies is very important to have prior knowledge of food industry processes, knowledge of raw materials and additives, human nutrition, as well as the standards in force in a moment at a time. In other areas, knowledge of the organizational structure of companies and decision-making mechanisms is also important, and on the other hand, understanding and differentiating the concepts of research, development and innovation, as well as knowledge on cost calculation, markets, distribution and labelling and product presentation.

Innovation is a feature of cutting-edge economies and is of great importance in ensuring the competitiveness of enterprises, as well as knowledge of theprotection of intellectual property and also on how technology transfer takes place.

Course Objectives:

- Learn the concepts and the difference between research, development and innovation

- Know the methodology for the development of new products

- Know the phases that lead to a new product fromits development until it reaches the market

- Know ways to get closer to the distribution system of products

- Costing the cost of developing a new product

- Know the structure of the food business and its decision-making mechanisms

- Know the departments and factors involved in the company during the development and launch of a new product

- Learn about the current evolution of the food industry and the needs of the market

- Learn the marketing elements business managers need

- Know the elements and approachesneeded to realize the product business plan

- Market niche detection and personal guidance

- Knowing social responsibility in the food industry

- Learn about the possibilities of innovation in the food industry

- Knowing how to create a new food company based on innovation

- Learn the mechanisms of intellectual protection, technology transfer and exploitation.

- Knowledge of creativity and innovation techniques

- Project presentation and promotion techniques

- Learn about technological innovation that can supportthe creation ofU.S. products

- Know the food industry-specific communication plan

Competences

- Adopt an ethical stance and attach importance to quality in work.
- Design, formulate and label foods that fit in with the needs of consumers and their cultural traits.
- Show sensitivity to environmental, sanitary and social issues.

Learning Outcomes

1. Adopt an ethical stance and attach importance to quality in work.
2. Classify the procedures for processing functional foods.
3. Comprehend the concept of technofunctionality.
4. Define the concept of functional food and related areas.
5. Establish the differences between development and innovation.
6. Identify the processes for obtaining bioactive components.
7. Present the processes for incorporating ingredients and additives.
8. Relate the formulation to the stability and the processing of the food.
9. Show sensitivity to environmental, sanitary and social issues.

Content

1. Food Company Environment: A Global Market
2. Market niches in the food industry and social responsibility
3. Structure of the food company and decision-making mechanisms.Organization chart and the factors involved in the process

Development and launch of a product. Current R&D&I models

a) Multinational

b) Smes

c) Distribution brand

1. Market orientation: How to approach innovation in a mature market

a) Market Trends: Anticipate Trends to Understand the Current Market

b) Market research and analysis

c) Understanding and anticipating consumer needs

d) Inspire other categories

1. Innovation in Business Management: The fundamentals of R&D&I

a) Basic concepts in R&D&I: Research, development and innovation

- Basic research

- Applied research

- Technological development

- Innovation

b) What is innovation in a food? Types of innovation

- Radical innovation

- Improvement innovation

- Process innovation

c) R&D&I support institutions and public policies

d) The innovation process

- Linear model of technological innovation

- Current model

e) New models of innovation: open innovation

f) Innovative product analysis of recent years (self-learning work)

g)New cross-cutting technologies in the food industry

1. Methodology for the development of a new product

a) Creativity Techniques

b) Definition of the report

c) Formulation tools

d) Laboratory, pilot and industrial tests

e) Cost calculation

f) Type of consumer test

1. Creating new businesses and spin-offsrelated to food technology

a) Technology transfer mechanisms

b) How to create a new food business based on innovation

c) Types of spin-offs. Creation mechanisms and requirements. Grants, grants, funding

1. Smart Intellectual and Industrial Property Protection

a) Smart devicesintellectual transfer, technology and exploitation

b) Trade and professional secret

c) Patents and trademarks

d) Drafting and application Patent Application. Sol Trademark Application and Protection.

1. Communication:

a) Experienceal communication

b) The communication plan

c) Presentation of projects

d) Communication tools

e) Communication-related issues

10.Marketing

a) Strategic Marketing

b) Marketing Mix(brand, price, distribution, communication)

c) Marketing Plan

11.Business plan

a) Market knowledge and competition

b) Target definition

c) Value creation. Positioning. Margin and rotation

d) Financial resources.

e) Organizational and human resources aspects

f) Commercial and sales activity

g) Planning

h) Corporate Social Responsibility and Trends

Methodology

1) Conferences.

The student acquires the scientific knowledge of the subject by attending the conferences and complementing them with the personal study of the topics explained.

2) Seminars and group tutorials

The seminars will be led by a specialized teacher, in which the student actively participates to discuss a predetermined topic through the exchange of partial information, the collective analysis of this information.

3) Self-learning job (ABA problem-based learning)

A hypothesis related to the analysisof innovative products inrecentyears will be raised. This group work will develop a part of the work that will be done in the classroom, a part of working in groups outside the classroom.

4) Practices

The practical development part of this course will be done in groups in the laboratory. The objective of the practical classes is to complete, apply and reinforce the knowledge acquired in the conferences. Students will perform the hands-on sessions following a script that must be read and prepared in advance. The results will be discussed in a post-preparation sessionwhere all the work will be presented.

The evaluation of the practices will be carried out by evaluatingthe work presented.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Conferences	26	1.04	2, 4, 3, 5, 7, 6, 8
Prácticas	19	0.76	1, 2, 4, 9, 3, 7, 6, 8
Tutorials	6	0.24	1, 5, 7, 6
Type: Supervised			
Supervised	5	0.2	6, 8
Type: Autonomous			
Preparing self-learning work	32	1.28	2, 4, 3, 5, 7, 6, 8
Study and bibliographic alquiry consultation	60	2.4	2, 4, 3, 5, 7, 6

Assessment

The competencies of this subject will be evaluated by:

- Final exam: Your weight on the general note is 40%. The minimum average to do with the other evaluable parts is 4 out of 10. If this note is not reached, the recovery exam should be

- Development work of a new product: represents 45% of the brand(35% laboratory work and final report-10% presentation) Each group will also performa self-assessment of the and can influence the individual note

- Seminar attendance: The weight in the general note is 15%, so 80% seminars need to be attended.

The course will be approved with an overall score of 5.0 or higher than 10.

A student is considered not evaluable if he or she has participated in evaluationactivities that account for15% of the final grade.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Conferences	15%	0	0	1, 2, 4, 9, 3, 5, 7, 6, 8
Development of New Products and Presentation	45%	0	0	1, 9, 7, 8
Examen	40%	2	0.08	1, 2, 4, 9, 3, 5, 7, 6, 8

Bibliography

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Websites of interest

http://www.knovel.com/web/portal/browse/subject/60/filter/0/

http://www.magma.ca/~scimat/

http://milkscunizar.es/bioquimica/uso.html

http://www.caixabankresearch.com/documents/10180/54279/ee33_esp.pdf