

Course:	L025 - Food Quality and Nutrition
Degree:	Bachelor
Curriculum Unit:	4001012 - Project
Scientific field:	Nutrition Sciences
ECTS^(*):	6
Curriculum year:	3rd
Curriculum semester:	1st
Frequency Regime:	Mandatory
Teacher(s):	Raquel de Pinho Ferreira Guiné
Contact hours ^(**):	T - 30; P - 60
Total work time (hours):	200

(*) - ECTS - European Credit Transfer and Accumulation System

(**) – T- Theoretical; TP- Theoretical/Practical; LP- Lab Practice; S- Seminars; I- Internships; TU - Tutorials; O- Other (Evaluations)

Objectives / Competences

With the knowledge provided in this course it is intended that the student may be able to formulate and develop a new food product/process, particularly in areas of new food tendencies: functional foods and nutraceuticals.

To achieve this, the student should address the various aspects of development, from the formulation of the idea to the materialization, involving market research, laboratory formulation, testing, sensory analysis, among others.

After the course the student will have the following skills:

- Formulate new food products/processes and have critical thinking to justify their entry into the consumer market and/or industrial application;
- Identify the conditions of profitability, quality and safety of new products/processes developed;
- Develop new ingredients and justify their importance and use, namely with respect to fortified foods and with bioactive compounds.

Syllabus

Development of an overall project of new product or transformation process taking into consideration the following topics:

1. Market research in order to look for trends and opportunities for the development of new product and / or process.
2. Product formulation and / or designing of transformation process.
3. Industrial technologies of production of the new product and / or evaluation of the new industrial process.
4. Physico-chemical analysis and sensorial evaluation of the new product.
5. Evaluation of nutritional composition.
6. Experimental evaluation at laboratory scale of the efficiency of the transformation process.

7. Study of packaging and labelling, focusing the advantages of the new product in terms of quality and nutrition as a way to incentive its consumption.
8. Marketing strategies for commercialization of the product / process.

Teaching methodologies and evaluation criteria

The practical classes act as forums where students present research work autonomously developed and perform, with the support of teachers, some components of their work, such as for example: study of packaging, production of the label, definition of marketing strategies. In these classes the different groups present their work and all students share the discussion in an attempt to find better solutions.

Moreover, the classes of laboratory practice are aimed at the development of the product / process, and to perform the analyzes required.

In communication with students is privileged the use of e-learning tools through the Moodle platform, for interaction between students and teachers.

The evaluation consists of three components:

- 1) Continuous evaluation that focuses on student participation in the activities undertaken in the laboratory and in the classroom;
- 2) Writing the final report;
- 3) Oral presentation and discussion of the work.

Short bibliography

- Dantas J, Moreira AC (2011) O Processo de Inovação. Lidel, Edições Técnicas, Lisboa.
- Earle M, Earle R, Anderson A (2001) Food product development. Woodhead Publishing Ltd., Cambridge, England.
- Earle M, Earle R. (Eds) (2001) Case studies in food product development. Woodhead Publishing Ltd., Cambridge, England.
- Earle MD, Earle RL. Creating New Foods. The Product Developer's Guide - the Web Edition. The New Zealand Institute of Food Science & Technology, Inc. <http://www.nzifst.org.nz/creatingnewfoods/>
- Macfie H, Hal MacFie (Eds) (2007) Consumer-led food product development. Woodhead Publishing Ltd., Cambridge, England.