



Course Unit: 935010 - Introduction to Food Technology

Year 1 Semester 2 ISCED Code: 721 ECTS: 5

Type of Course Unit: Compulsory Delivery Mode: Face-to-face Language of Instruction: Portuguese

COURSE COORDINATOR: Antónia Teresa Zorro Nobre Macedo

HOURS OF WORK

TOTAL HOURS	Contact Hours								Hours in autonomous work
	Theory	Theory and practice	Practical and laboratory work	Field work	Seminar	Internship	Tutorial guidance	Other	
125		45							80

Prerequisites (if applicable): Not applicable

LEARNING OUTCOMES (knowledge, skills and competence)

Characterization of the first and second transformation industries. Evaluation of the quality of raw materials in industry and in the finished products. Characterization of the water according to their use in the food industry.

Utilization of by-products and wastewater treatment. Analysis of manufacturing diagrams, facilities and equipments used in the food industry. To improve energy efficiency and ensure the hygiene, safety and traceability in the food industry (legal framework).

CONTENTS

Characterization and sectorization of the activities of the Food Industry. Regional and national implementation.

Supply of raw materials and subsidiaries of the food industry. Conservation. Preparation of the staff. Basics to assess the quality of raw materials in industry and finished products (DOP, IGP and ETG, biological).

Characterization of the water according to its use in the food industry. Importance of the quality and amount of water during the production cycle. Processes and systems for sanitation, washing and sterilization of equipment and facilities. Utilization of by-products and wastewater treatment. Production diagrams and decisive factors from different outputs. Hygiene, safety and traceability in the food industry: methods, objectives and legal framework. The EU guidelines concerning safety and food hygiene. Analysis of the different equipments used in the industry, both in pilot plant or by visiting plants.

DEMONSTRATION OF THE CONTENTS COHERENCE WITH THE COURSE UNIT'S LEARNING OUTCOMES

The syllabus covering the major topics of industrial activity such as: characterization and sectorization of the food industry, supply and quality of raw materials, the quality and quantity of water used, the processes of cleaning and sanitizing, the main parameters to consider in efficiency processes and knowledge of key EU directives on food safety and hygiene, provides students with the fundamental tools, so it can achieve the proposed objectives.

TEACHING METHODOLOGIES

Lectures and individual research on a pre-defined topic with presentation and discussion.

DEMONSTRATION OF THE COHERENCE BETWEEN THE TEACHING METHODOLOGIES AND THE LEARNING OUTCOMES

The fact that the student has to make an individual research on a topic pre-defined in the context of the proposed program is a first contact with the activity of the food industry, providing to him with a practical knowledge which will enable to an improved consolidation of the necessary theoretical knowledge and contributing to the achievement of the goals.

EVALUATION METHODS

Preparation and presentation of an individual work (50%) and final examination on the whole matter (50%).

MAIN BIBLIOGRAPHY

BIRD, R. B., STEWART, W. E., LIGHTFOOT, E. N. (2001). Transport Phenomena, 2nd Ed. John Wiley & Sons, Inc.

BALMER, R. T. (1990). Thermodynamics. St. Paul, MN, West Publishing.

WELTY, J. R., WILSON, R. E., WICKS, C. E. (2001). Fundamentals of Momentum, Heat and Mass Transfer, 4th. Ed. John Wiley & Sons, Inc.

Year of implementation: 2013/2014 | Date of approval by the Technical-Scientific Board: 2012-10-10