



Course Unit: 15717 – Quality Control of Materials of Vegetable Origin

Year 2 Semester 3 ISCED Code: 721 ECTS: 5,0

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

COURSE COORDINATOR: Carlos Manuel Marques Ribeiro

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	15		30						70

Prerequisites (if applicable): Not applicable

LEARNING OUTCOMES (knowledge, skills and competence)

It is intended that the student:

- knows the characteristics and composition of raw materials and finished products;
- performs analytical procedures and interpret the results;
- undertakes the evaluation and quality control of raw materials and finished products of plant origin.

CONTENTS

1. Introduction to the production, harvest, post-harvest handling, preservation and processing technologies of fruits and vegetables. Evaluation of quality and quality control of fruit and vegetables, and of fruit- and vegetable based products. Methods of analysis.
2. Cereals and derivatives. Methods of analysis.
3. From the grape to wine. Brief introduction to the production of grapes, maturation and quality criteria in the harvest. Introduction to wine elaboration technology. Determination of points of quality control of wines, legal limits and methods of analysis.
4. From olives to olive oil. Introduction to virgin olive oil extraction technology. Olives ripening stages: chemical analysis and determination of the optimal time to harvest through its interpretation. Virgin olive oils classification: quality control by performing laboratory analysis and interpretation of the results according to the legislation.

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

- For the student to know the characteristics and composition of raw materials and finished products, topics related to fruit composition, vegetables, cereals, olives and olive oil, grapes and wine, will be discussed;
- In order to be able to perform analytical procedures and interpret the results, this course will include a strong practical and laboratory component with the implementation of appropriate methods for each raw material and finished product.
- In order to be able to carry out the evaluation and quality control of raw materials and finished products of plant origin, the results will be discussed and interpreted considering data published in the technical and scientific literature, legislation and technical standards.

TEACHING METHODOLOGIES

Lectures using various audiovisual media, such as slides and videos. Presentation of legislation and standards applicable and practical examples, for example, analytical reports. Visits to laboratories of food analysis, preferably accredited. Laboratorial

practical work. Use of IPBeja Moodle platform. The evaluation will include written tests (25%) and laboratorial tests (75%).

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

- For the student to know the characteristics and composition of raw materials and finished products, lectures will be taught;
- In order to be able to perform analytical procedures and interpret the results, study visits and practical laboratory works will take place; in these works, the student performs the protocols using the materials and laboratory equipment for analysis of food samples.
- In order to be able to carry out the evaluation and quality control of raw materials and finished products of plant origin, it will be carried out study visits, practical works, presentation of legislation and standardization and discussion of practical examples.

EVALUATION METHODS

The evaluation will include written tests (25%) and laboratorial tests (75%).

MAIN BIBLIOGRAPHY

- Ayton, J., Haigh, T, Tronson, D., & Mailor, R. (2005). The effect of harvest timing on olive oil quality. Centre for horticulture and plant science. Hawkesbury Campus, Sidney, NSW.
- Boskou, D. (2006). Olive Oil Chemistry and Technology. AOCS Press.
- Cardoso, A. (2007). O Vinho- da Uva à Garrafa. 1.ª edição ed. Coimbra: Âncora editora.
- Curvelo-Garcia, P. B., 2015. Química Enológica - Métodos Analíticos. Porto: Publindústria, Edições Técnicas.
- Hui, Y. (2006). Handbook of fruits and fruit processing. Blackwell Publishing.
- Organisation International de la Vigne et du Vin (OIV) (2014). Compendium of international methods of wine and must analysis volumes 1 e 2, OIV, Paris.
- Sinha, N.K. (2011). Handbook of vegetables and vegetable processing. Blackwell Publishing Ltd.
- Wrigley, C.W., & Batey IL (2010). Cereal grains. Assessing and managing quality. Woodhead Publishing Limited.

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