

Course:	L025 - Food Quality and Nutrition
Degree:	Bachelor
Curriculum Unit:	9025008 - Quality and Processing of Fruits and Vegetables
Scientific field:	Food Science and Technology
ECTS^(*):	5
Curriculum year:	2nd
Curriculum semester:	2nd
Frequency Regime:	Mandatory
Teacher(s):	António Manuel Santos Tomás Jordão
Contact hours ^(**):	TP - 45
Total work time (hours):	132

(*) - 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

- Apply knowledge related to quality assessment of horticultural products and their suitability for industrial transformation processes.
- Understand the key technologies involved in the processing of fruit products and their impact on the quality characteristics of the products produced.
- Identify the most common problems that occur during processing of horticultural products and their impact on product quality.
- Understand and apply the most important methodologies for the qualitative analysis of fruit and vegetables to consume fresh and even after processing and industrial use.

Syllabus

Theoretical: Major changes in fruit and vegetables after harvest. Biochemical maturation and post-harvest fruit. Studies conservation techniques most important fruits and vegetables with industrial use. Production of horticultural products and their relation to the quality of processed products. The packaging of fruit and vegetables. Transformation technologies of various horticultural products and quality control.

Practical component: Research of peroxidase in vegetables. Determination of 5-hydroxymethyl furfural. Determination of pectin into juice. Evaluation of the quality of tomato concentrate. Preparation of products processed from fruit and vegetables of the season. Drafting work related to specific horticultural products. Visit the company's fruit and vegetable sector.

Teaching methodologies and evaluation criteria

This course will be taught in e-learning system mixed with classroom and online support. The classes include classroom lectures and laboratory practice. The theoretical instruction is based on the exposure of the material in lectures. The practical component will be conducted in situations that will aim to make the processing of horticultural products on a pilot scale. The

evaluation of the course consists of a written exam final, encompassing the acquired knowledge in both theoretical and theoretical-practical and written work done in group and stating the work in practical laboratory component.

Short bibliography

Arthey, D; Dennis, C. (1992) - Procesado de hortalizas. Acribia (ed.), Saragoza, Espanha.

Arthey, D. and Ashurst, P., R. (ed.) (1996) - Fruit Processing. Blackie Academic & Professional, Glasgow. pp:248.

Batalha, V.; Capela, J; Ferreira, A. (1995) - A irradiação alimentar na história. Agros nº2, pp: 60:68.

Bentes, D.J.; Duarte, C.R.; Beja da Costa, M. (1995) - O enchimento asséptico no concentrado de tomate. Agros, nº2, pp: 50:55.

Herrero, A. e Guardia, J. (1992) - Conservación de frutos. Manual Técnico. Mundi-Prensa (ed.), Espanha.

Holdsworth, S.D. (1988) - Conservacion de frutas y Hortalizas. Editorial Acribia, S.A., Zaragoza (Espanha). pp:186.

Madrid, A.; Cenzano, I. and Vicente, J., M. (1997) - Nuevo Manual de Industrias Alimentarias. Mundi-Prensa.

Somogyi, P., Laszlo; Ramaswmy, H., S., Hui, Y., H. (ed.) (1996) - Processing fruits: Science and technology. Techonic Publishing Company, Inc.. Vol. 1. pp:510.