60652 - Food Processing Procedures

Información del Plan Docente

Academic Year	2016/17
Academic center	100 - Facultad de Ciencias
Degree	540 - Master's in Industrial Chemistry
ECTS	3.0
Course	1
Period	Second semester
Subject Type	Optional
Module	---

1.Basic info

1.1.Recommendations to take this course

1.2.Activities and key dates for the course

2.Initiation

2.1.Learning outcomes that define the subject

2.2.Introduction

3.Context and competences

3.1.Goals

3.2.Context and meaning of the subject in the degree

3.3.Competences

3.4.Importance of learning outcomes

4.Evaluation

5.Activities and resources

5.1.General methodological presentation

The learning method used is based on the cooperative work of the teacher and the student. The method will follow the traditional approach based on lectures but supported by the active participation of the students. Therefore, participation and discussion during the lectures will be promoted. The learning process will be developed in several levels: lessons (2ECTS), problems resolution/case studies and visits to food processing companies (1 ECTS). The problems resolution, case studies and visits to food processing companies are useful to support lessons of theory, because these enable the learning of the subject and also help to develop a more apply knowledge in the student.

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5.2.Learning activities

The learning process (75 h) used during the lectures will be based on:

- Classroom lectures (20 h).

- Problems and cases discussion (10h)

- Self study and guided activities (37h).

- Special Practical session: Visit to a food processing company (5h).

- Ongoing assessment (3h).

5.3.Program

1. Food Processing Industry. Unit operations. Environmental issues and best available techniques.

2. Oil and fat processing: Classification of oils according to the normative; commercial types olive oils; olive oil extraction operations, overview of vegetable oils; refining process for vegetable oils; byproducts in olive oil processing.

3. Fruit and Vegetables; Fruit juice processing technology; Canning operations on fruits and vegetables; Fruits and vegetable drying/dehydration; Processing of jam and jellies preparation methods of nectar, concentrate and syrup.

4. Alcoholic beverages processing: Beer; Types of beer; Technology of brewing process; Raw materials for the beer manufacture, Side products in beer processing industry.

5. Sugar Industry and Sugar Manufacturing Process. Sugar classification; Unit operations relevant to the sugar manufacturing process.

6. Milk and Dairy Ingredients for Food Processing. Thermal processing; pasteurization; aseptic packaging, cream, cheese, yogurt, ice-creams, butter, milk powder.

7. Advanced Processes in Food industry.

5.4.Planning and scheduling

The course calendar is defined by the Science Faculty and it will be posted in the Sicence Faculty website as well as in the Master web site (https://ciencias.unizar.es/). Activities Agenda and teaching documents will be posted in the learning platform moodle (https://moodle.unizar.es/)

5.5.Bibliography and recomended resources

- Madrid Vicente, Antonio. Nuevo manual de industrias alimentarias / autores, Antonio Madrid Vicente, Javier Madrid Cenzano . - [3ª] ed. amp. y corr. Madrid : A. Madrid Vicente : Mundi-Prensa, 2001
- Prevención y control integrados de la contaminación (IPPC) : documento de referencia de mejores técnicas disponibles en la industria de fabricación de vidrio : documento BREF [Madrid] : Ministerio de Medio Ambiente,

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Centro de Publicaciones, 2004
- Prevención y control integrados de la contaminación (IPPC) : documento de referencia de mejores técnicas disponibles en la industria de procesos de metales férreos : documento BREF / traducción al español realizada por el Ministerio de Medio Ambiente [Madrid] : Centro de Publicaciones, Ministerio de Medio Ambiente, 2006
- Prevención y control integrados de la contaminación (IPPC) : documento de referencia de mejores técnicas disponibles en la industria de la pasta y el papel : documento BREF [Madrid] : Ministerio de Medio Ambiente, Centro de Publicaciones, 2006
- Prevención y control integrados de la contaminación (IPPC) : documento de referencia de mejores técnicas disponibles en la industria de procesos de metales férreos : documento BREF [Madrid] : Ministerio de Medio Ambiente, Centro de Publicaciones, 2006
- Wang, L.K.. Tratamiento de residuos de la industria del procesado de alimentos. Acribia. 2008
- Fellows, Peter.. Tecnología del procesado de los alimentos : principios y prácticas / Peter Fellows ; traducción de Jesús Ceamanos Lavilla . - 2ª ed. Zaragoza : Acribia, D.L. 2007
- Ministerio del Medio Ambiente. Prevención de la Contaminación en la Producción de Aceite de Oliva. Ministerio del Medio Ambiente. 2000.