

390227 - GAIA - Environmental Management of Food Industries

Coordinating unit: 390 - ESAB - Barcelona School of Agricultural Engineering
 Teaching unit: 745 - EAB - Department of Agri-Food Engineering and Biotechnology
 Academic year: 2019
 Degree: BACHELOR'S DEGREE IN FOOD ENGINEERING (Syllabus 2009). (Teaching unit Compulsory)
 ECTS credits: 6 Teaching languages: Catalan

Teaching staff

Coordinator: Balanya Martí, Teresa

Degree competences to which the subject contributes

Specific:

CE-BC-16. Management and exploitation of by-products from the agricultural industry.

Transversal:

02 SCS N3. SUSTAINABILITY AND SOCIAL COMMITMENT - Level 3. Taking social, economic and environmental factors into account in the application of solutions. Undertaking projects that tie in with human development and sustainability.

Learning objectives of the subject

On successfully completing the schedule of this course the student will learn:

- all about existing problems in the food industry because of generation of wastewater and waste and its management
- the technologies of treatment more important
- options of pollution valorization and minimization
- the environmental management tools applicable to the food industry to improve its environmental behaviour.

This knowledge should enable students to:

- propose measures organizational, operational and technology to minimize the amount and/or hazard of the waste generated in food industries.
- make sustainable decisions from the environmental point of view.

Study load

Total learning time: 150h	Hours large group:	40h	26.67%
	Hours small group:	20h	13.33%
	Self study:	90h	60.00%

390227 - GAIA - Environmental Management of Food Industries

Content

<p>INTRODUCTION</p>	<p>Learning time: 2h 30m Theory classes: 1h Laboratory classes: 0h Self study : 1h 30m</p>
<p>Description: Environmental problems of the food industry in the areas of waste and wastewater.</p>	
<p>WASTEWATER TREATMENT OF FOOD INDUSTRIES</p>	<p>Learning time: 80h Theory classes: 20h Laboratory classes: 12h Self study : 48h</p>
<p>Description: Wastewater treatment of food industries: physical, chemical and biological processes. Intensive and extensive wastewater treatment systems. Treatment and management of sewage sludge of food industries. Sanitation normative aspects and water taxes.</p>	
<p>INDUSTRIAL WASTE MANAGEMENT</p>	<p>Learning time: 22h 30m Theory classes: 5h Laboratory classes: 4h Self study : 13h 30m</p>
<p>Description: Characterization of the most significant residues of the food industry and associated problems. Valorization of organic waste from the food industry. Industrial waste management.</p>	
<p>POLLUTION MINIMIZATION</p>	<p>Learning time: 18h Theory classes: 4h Laboratory classes: 2h Self study : 12h</p>
<p>Description: Cleaner production. Pollution prevention in food industries by sectors.</p>	

390227 - GAIA - Environmental Management of Food Industries

ENVIRONMENTAL MANAGEMENT TOOLS	Learning time: 25h Theory classes: 8h Laboratory classes: 2h Self study : 15h
Description: Environmental management tools. The 20/2009 law of prevention and environmental control of activities.	

Bibliography

Basic:

García-Morales, J.L.; i altres. De Residuo a recurso. El camino de la sostenibilidad.. 1ª. España: Mundi-Prensa, 2015. ISBN 978-84-8476-702-2.

Tchobanoglous, George; Burton, Franklin L. Ingeniería de aguas residuales : tratamiento, vertido y reutilización. 3a ed. Madrid: McGraw-Hill, 1995. ISBN 8448116070.

García Morales, José Luís. Residuos agroalimentarios. Madrid: Mundi-Prensa, 2015. ISBN 9788484767022.

Others resources: