

28917 - Ecology and management of agro-industrial byproducts

Información del Plan Docente

Academic Year	2016/17
Academic center	201 - Escuela Politécnica Superior
Degree	437 - Degree in Rural and Agri-Food Engineering
ECTS	6.0
Course	2
Period	Half-yearly
Subject Type	Compulsory
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

Theory lectures based on master lectures. Some of them can be given by invited speakers.

The practical part of Ecology will be: ecosystem recognition in the field; practices in the classroom and team tutorials.

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The practical part of Management of Agroindustry By-products will be: team tutorials; problems solving in the classroom and in computer classrooms and visit to agroindustry facilities.

5.2.Learning activities

The program offered to the students to help them achieve the expected results, comprise the following activities:

Theory sessions in the classroom

Mainly master lectures with teacher's questioning. The rest correspond to invited speakers and seminars.

Special practices

Visits to facilities related to the program

Classroom practices

Students will previously receive information in order to be prepared for the practice. Some of them will be in computer classrooms.

Tutorials

For the teacher's survey of the theory and practice activities individual and team tutorials will be available

Reports

Teachers will offer different Ecology, Environmental and Agroindustrial By-products subjects to the students. They will write a report on these subjects, following teacher's advice.

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5.3.Program

Theory program

Ecology

The organism and its environment

Populations

Interactions between species

Communities

Ecosystems

Biogeography

Human Ecology

Management of Agroindustrial by-products

Introduction to Environmental Management

Agroindustries

Waste and Agroindustry By-products legislation

Management of Agroindustry wastes

Technology of slaughter and slaughter by-products

Technology of cereals and cereal by-products

Practical program

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Ecology

Practices focused on the recognition of ecological processes and ecosystems

Management of Agroindustry by-products

Design and control of a compost process. Part 1

Start of the team report

Search of agroindustry facilities affected by regulations

Design and control of a compost process. Part 2

Report presentation

The approximate overall distribution of the hours of work is in next table. It can be subject of changes regarding availability of facilities for practices and the specific yearly academic calendar.

5.4.Planning and scheduling

Calendar of on-site lectures and report presentations

A 6 ECTS subject will need an average 150 hours of work. The following table shows a breakdown of the different activities.

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Lab			2			2					
Individual work	6	5	3	4	2	2		8	5		
Team work		1	1	1	2	2			2	2	2
Facilities and field work							5				
Activity and week	12	13	14	15	16	17	18	19	20	Total	
<i>On-site</i>										68	
Theory	2	2	2	2	2					30	
Computer										10	
Lab	2	2	2	2						12	
Team work										2	
Facilities and field work			5							10	
Evaluation								4		4	
Non on-site work										82	
Individual work	2	2	2	2	2	8	8			61	
Team work	2	2	2	2	2	8	8			21	

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Total	16	16	21	17	12	16	17	12		150	
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5.5. Bibliography and recommended resources

BB

- Smith, Thomas Michael. Ecología / Thomas M. Smith, Robert Leo Smith . - 6a. ed. Madrid [etc.] : Pearson Addison-Wesley, D.L. 2007
- Tchobanoglous, George. Gestión integral de residuos solidos / George Tchobanoglous, Hilary Theisen, Samuel Vigil ; traducción y revisión técnica Juan Ignacio Tejero Monzón, José Luis Gil Diaz, Marcel Szanto Narea . [1a. ed. en español, reimpr.] Madrid [etc.] : McGraw-Hill, D.L.1996

LISTADO DE URLs:

Guías de Mejores Técnicas Disponibles por Sectores. Ministerio de Medio Ambiente y Medio Rural y Marino -
[\http://www.prtr-es.es/fondo-documental/documentos-de-mejores-tecnicas-dispon
 Ley 16/2002, de 1 de julio, de prevención y control integrados de la contaminación -
[\[http://www.boe.es/diario_boe/txt.php?id=BOE-A-2002-12995\]](http://www.boe.es/diario_boe/txt.php?id=BOE-A-2002-12995)
 Ley 22/2011, de 28 de julio, de residuos y suelos contaminados -
[\[http://www.boe.es/boe/dias/2011/07/29/pdfs/BOE-A-2011-13046.pdf\]](http://www.boe.es/boe/dias/2011/07/29/pdfs/BOE-A-2011-13046.pdf)
 R.D. 509/2007, de 20 de abril, por el que se aprueba el Reglamento para el desarrollo y ejecución de la Ley 16/2002 de 1 de julio, de prevención y control integrados de la contaminación -
[\[http://www.boe.es/boe/dias/2007/04/21/pdfs/A17704-17717.pdf\]](http://www.boe.es/boe/dias/2007/04/21/pdfs/A17704-17717.pdf)