[GCH101] INDUSTRIAL WASTE MANAGEMENT AND TREATMENT

GENERAL INFORMATION

Studies	DEGREE IN ENGINEERING IN ECO-TECHNOLOGY IN INDUSTRIAL PROCESS			**Subject**	ENVIRONMENT AND SUSTAINABILITY
Semester	1	**Course**	4	**Mention / Field of specialisation**	???
Character	OPTIONAL				
Plan	2017	**Modality**	Adapted Face-to-face	**Language**	EUSKARA
Credits	3	**Hours/week**	0.83	**Total hours**	15 class hours + 60 non-class hours = **75 total hours**

PROFESSORS

LLAGUNO VILLAFAFILA, ARRATE

REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
(No specific previous subjects required)	*(No previous knowledge required)*

SKILLS

VERIFICA SKILLS

SPECIFIC

GCIN10 - To have basic knowledge of and ability to apply environmental and sustainability technologies.

GENERAL

G_CB6 - To be able to respond adequately in complex situations or situations that call for innovative solutions in both the academic field and work environments within their field of study;

GCCG03 - To take the initiative in problem solving, decision making and creativity, and to communicate and share knowledge and skills, understanding the ethical and professional responsibilities of the business activity in the field of Ecotechnology Engineering in Industrial Processes.

GCCG4 - To know how to perform measurements, calculations, valuations, studies, reports, task planning, and other activities pertaining to the field of Ecotechnology Engineering in Industrial Processes

GCCG5 - To be able to analyse and assess the social and environmental impact of technical solutions.

GCCG8 - To draft and develop projects in the field of Ecotechnology Engineering in Industrial Processes, focusing on the the design and development and on the application of systems, technologies and strategies in the industrial processes which minimise their impact on the environment.

CROSS

GCCTR2 - To be able to do their job in cooperative, participatory environments, with awareness of social responsibility.

BASIC

G_CB2 - To be able to apply knowledge to occupational or professional tasks; have the necessary skills to pose and defend arguments, and to solve problems within their field of study

G_CB3 - To be capable of gathering and interpreting relevant data (normally within their field of study) in order to make judgements, reflecting on relevant matters of a social, scientific or ethical nature

G_CB4 - To be able to communicate information, ideas, problems and solutions to both expert and lay audiences

G_CB5 - To have developed learning abilities required to embark on subsequent studies with a high level of autonomy.

LEARNING RESULTS

RGC409 **[!]** ***Identifica las diferentes tipologías de residuos que se pueden generar en una empresa así como los requerimientos legales de cada uno de ellos.***

LEARNING ACTIVITIES	CH	NCH	TH
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	2 h.	10 h.	12 h.
Tutoring sessions and monitoring of training activities	3 h.	10 h.	13 h.

EVALUATION SYSTEM	W
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	40%
Individual written and/or oral tests or individual coding/programming tests	60%

MAKE-UP MECHANISMS

Individual written and oral tests to assess technical skills of the subject

CH - Class hours: 5 h.
NCH - Non-class hours: 20 h.

TH - Total hours: 25 h.

RGC410 **[!]** ***Describe los diferentes procesos de tratamiento y gestión de residuos en función de las necesidades de los diferentes entornos de aplicación.***

LEARNING ACTIVITIES	CH	NCH	TH
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	3 h.	10 h.	13 h.
Tutoring sessions and monitoring of training activities	2 h.	10 h.	12 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	40%	Individual written and oral tests to assess technical skills of the subject
Individual written and/or oral tests or individual coding/programming tests	60%	

CH - Class hours: 5 h.
NCH - Non-class hours: 20 h.
TH - Total hours: 25 h.

RGC411 **[!]** ***Selecciona y calcula las diferentes instalaciones para el tratamiento de residuos.***

LEARNING ACTIVITIES	CH	NCH	TH
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	3 h.	10 h.	13 h.
Carrying out exercises and solving problems individually and/or in teams	2 h.	10 h.	12 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	40%	*(No mechanisms)*
Individual written and/or oral tests or individual coding/programming tests	60%	

CH - Class hours: 5 h.
NCH - Non-class hours: 20 h.
TH - Total hours: 25 h.

CONTENTS

Chapter 1: Residues: definition and classification
Chapter 2: Urban Solid Waste
Chapter 3: Treatment of organic matter. Composting
Chapter 4: Soil as a means of recycling
Chapter 5: Landfills
Chapter 6: Industrial waste treatment
Chapter 7: Recycling of polymeric materials
Chapter 8: Specific waste treatment I
Chapter 9: Specific waste treatment II

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
Subject notes Moodle Platform	http://katalogoa.mondragon.edu/janium-bin/janium_login_opac_re_lnk.pl?grupo=EKOTEKNOLOGIA41&ejecuta=15