SUBJECT TEACHING GUIDE

M1746 - Sustainability of Processes and Products

Master's Degree in chemical engineering

Academic year 2016-2017

1. IDENTIFYING DATA					
Degree	Master's Degree in chemical engineering			Type and Year	Compulsory. Year 1
Faculty	School of Industrial Engineering and Telecommunications				
Discipline					
Course unit title and code	M1746 - Sustainability of Processes and Products				
Number of ECTS credits allocated	6	Term	Semester based (2)		
Web	http://grupos.unican.es/depro/				
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. INGENIERIAS QUIMICA Y BIOMOLECULAR
Name of lecturer	JOSE ANGEL IRABIEN GULIAS
E-mail	angel.irabien@unican.es
Office	E.T.S.I. Industriales y Telecomunicación. Planta: - 2. DESPACHO (S2016)
Other lecturers	MARIA VICTORIA BIEZMA MORALEDA AURORA GAREA VAZQUEZ RUBEN ALDACO GARCIA JOSE ANTONIO FERNANDEZ FERRERAS MARIA MARGALLO BLANCO ESTHER SANTOS SANTAMARIA

3.1 LEARNING OUTCOMES
- Sustainable Development. concept and application to the Sustainable Production and Consumption
- Assessment of the Environmental Sustainability of Processes and products
- Individual and group reports to be discussed

4. OBJECTIVES

Identify and assess the environmental burdens and the use of resources in processes and products
Evaluation of the application of innovative technologies to increase the process and products sustainability

6. COURSE ORGANIZATION

CONTENTS	
1	SUSTAINABILITY FUNDAMENTALS
2	SUSTAINABILITY METRICS. PROCESS AND PRODUCTS SUSTAINABILITY INDICATORS
3	CASES OF STUDY

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Motivation, participation, reports and presentations	Work	No	Yes	100,00
TOTAL				100,00

Observations
Motivation and participation 50%, individual and group reports 30% and presentations 20%
Observations for part-time students
first year following the course and second year reports

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

Sustainable Development in Practice. Case Studies for Engineers and Scientists. A Azapagic, S Perdan and R Clifft. J Wiley (2011)

David T Allen, D R Shonnard Sustainable Engineering. Concepts, Design and Case Studíes (2011)