

GUÍA DOCENTE ABREVIADA DE LA ASIGNATURA

G799 - Life Cycle Assessment

Grado en Ingeniería Química

Curso Académico 2019-2020

1. DATOS IDENTIFICATIVOS				
Título/s	Grado en Ingeniería Química		Tipología y Curso	Optativa. Curso 4
Centro	Escuela Técnica Superior de Ingenieros Industriales y de Telecomunicación			
Módulo / materia	MATERIA OPCIÓN B: GESTIÓN DEL MEDIO AMBIENTE INDUSTRIAL MATERIA OPCIÓN D: EUROPEAN PROJECT SEMESTER MÓDULO OPTATIVO			
Código y denominación	G799 - Life Cycle Assessment			
Créditos ECTS	6	Cuatrimestre	Cuatrimestral (2)	
Web				
Idioma de impartición	Inglés		Forma de impartición	Presencial

Departamento	DPTO. INGENIERIAS QUIMICA Y BIOMOLECULAR			
Profesor responsable	ANTONIO DOMINGUEZ RAMOS			
E-mail	antonio.dominguez@unican.es			
Número despacho	E.T.S. de Ingenieros Industriales y de Telecomunicación. Planta: - 3. DESPACHO (S3035E)			
Otros profesores	MARIA MARGALLO BLANCO JONATHAN ALBO SANCHEZ JAVIER PINEDO ALONSO			

3.1 RESULTADOS DE APRENDIZAJE

- Understanding the concept of Life Cycle Thinking
- Learning the fundamentals about how to perform a Life Cycle Assessment study
- How to use commercial Life Cycle Assessment software (group project)

4. OBJETIVOS

Life Cycle Assessment (LCA) is a well-known methodology applied to products, processes and services which considers its full life cycle: from the cradle (as natural resources) to the grave (as air emissions, liquid effluents and solid wastes). The course covers all aspects about how to perform an LCA study: definition of the goal and scope as well as the target audience, gathering data on resource consumption and emissions, burdens to the environment, checking the robustness and significance of results and conclusions, and reporting and reviewing to ensure transparency and quality. This LCA course includes LCA fundamentals as well as practical activities based on group projects. For the project development, the students learn how to use a commercial LCA software.

6. ORGANIZACIÓN DOCENTE

CONTENIDOS

1	Lecture 1. Life Cycle Assessment fundamentals 1.1 Sustainable Development 1.2 Development of the LCA concept 1.3 Life Cycle Sustainability Assessment 1.4 Life Cycle Thinking
2	Lecture 2. Life Cycle Assessment methodology 2.1 Goal and Scope definition 2.2 Life Cycle Inventory 2.3 Life Cycle Impact Assessment 2.4 Interpretation
3	Practical activities. Group projects using LCA software

7. MÉTODOS DE LA EVALUACIÓN

Descripción	Tipología	Eval. Final	Recuper.	%
Exam corresponding to the lectures	Examen escrito	No	Sí	50,00
Final report of the group project	Trabajo	No	Sí	20,00
Final oral defense of the group project	Examen oral	No	Sí	25,00
Intermediate oral defense of the group project	Examen oral	No	Sí	5,00
TOTAL				100,00

Observaciones

Attendance is strongly recommended to the students. The individual contribution of each student to the group project will be checked in the oral defense of the project during the practical activities.

If the final mark from the test and the group project is below the minimum mark (5.00), the student can pass a retake exam in June (date determined by the ETSIlyT board). An additional retake exam is possible in September (date determined by the ETSIlyT board).

Observaciones para alumnos a tiempo parcial

Partial time students can pass the course thanks to the exam corresponding to the lectures that will be taken place before the start of the group projects. A retake exam is possible in June in a date to be determined. A second retake exam is possible in September in a date to be determined.

8. BIBLIOGRAFÍA Y MATERIALES DIDÁCTICOS

BÁSICA

- M.A. Curran, Life Cycle Assessment Handbook: A Guide for Environmentally Sustainable Products. Ed. Wiley-Scrivener, (2012)
- R. Horne, T. Grant, K. Verghese, Life Cycle Assessment: Principles, Practice and Prospects. Ed. CSIRO Publishing, (2009).
- A. Azapagic, R. Clift, S. Perdan, Sustainable Development in Practice: Case Studies for Engineers and Scientists. Ed. John Wiley and Sons, (2004)
- H. Baumann, A.M. Tillman, The Hitch Hiker's Guide to LCA, Ed. Studentlitteratur, (2004)

Esta es la Guía Docente abreviada de la asignatura. Tienes también publicada en la Web la información más detallada de la asignatura en la Guía Docente Completa.