[MLC004] Sustainable production

GENERAL INFORMATION

Studies	UNIVERSITY MASTER'S DEGREE IN PRODUCTIVE LOGISTICS OPERATIONS MANAGEMENT			**Subject**	21st century business
Semester	2	**Course**	1	**Mention / Field of specialisation**	
Character	COMPULSORY				
Plan	2022	**Modality**	Face-to-face	**Language**	CASTELLANO/ENGLISH
Credits	3	**Hours/week**	0	**Total hours**	50 class hours + 25 non-class hours = **75 total hours**

PROFESSORS

GORROÑO ALBIZU, LEIRE

REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
(No specific previous subjects required)	[!] *Conocimientos básicos en procesos productivos* [!] *Conocimientos básicos en gestión de operaciones logísticas y productivas*

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
MLR041 - Identifies, lists, describes, situates and applies the main tools for the design, evaluation and implementation of strategies related to Life Cycle Thinking and the Circular Economy for the improvement of sustainability in logistics and production operations	*x*			2,6
MLR301 - Works in multidisciplinary teams, without distinction, with a cooperative and participative attitude and efficiently communicates the results obtained orally and in writing in different languages. Without any limitation of accessibility to achieve the established objectives.	*x*		*x*	0,2
MLR302 - Understands the impact of their profession on the environment in order to practice with social responsibility	*x*			0,2
			Total:	3

KC: Knowledge or Content / SK: Skills / AB: Abilities

SECONDARY LEARNING RESULTS

RML107 **[!]** ***Identifica, enumera, describe, sitúa y aplica las principales herramientas para el diseño, evaluación e implementación de estrategias relacionados con el "Life Cycle Thinking" y la Economía Circular para la mejora de la sostenibilidad en las operaci***

LEARNING ACTIVITIES	CH	NCH	TH
Personal study and flexible development of concepts and subjects using active dynamics, to foster more meaningful learning		5 h.	5 h.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	5 h.		5 h.
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams	15 h.	5 h.	20 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	10 h.		10 h.
Carrying out exercises and solving problems individually and/or in teams	10 h.	13 h.	23 h.
Reading and personal and/or shared analysis of relevant and current publications (books, articles, catalogues, etc.) related to the speciality	2 h.		2 h.

EVALUATION SYSTEM	W
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	33%
Presentation and defence of exercises, case studies, computer practical work, simulation practical work, laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems	30%
Individual written and/or oral tests or individual coding/programming tests	37%

MAKE-UP MECHANISMS

Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems

Individual written and/or oral tests or individual coding/programming tests

Comments: The final grade of the exam will be the grade of the retake exam. The resubmission of a failed deliverable will have a maximum grade of 5.

CH - Class hours: 42 h.
NCH - Non-class hours: 23 h.

TH - Total hours: 65 h.

RML301 **[!]** ***Trabaja en equipos multidisciplinares, sin distinción ninguna, con actitud cooperativa, participativa y comunica eficiente los resultados obtenidos de forma oral y escrita en distintos idiomas. Sin ninguna limitación de accesibilidad para alcanzar lo***

LEARNING ACTIVITIES	CH	NCH	TH
Development and writing of records, reports, presentations, audiovisual material, etc. on projects/work experience/challenges/case studies/experimental investigations carried out individually and/or in teams	3 h.	1 h.	4 h.
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams	1 h.		1 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	50%	Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems
Presentation and defence of exercises, case studies, computer practical work, simulation practical work, laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems	50%	

CH - Class hours: 4 h.
NCH - Non-class hours: 1 h.
TH - Total hours: 5 h.

RML302 **[!]** ***Entiende el impacto de su profesión en el entorno para ejercer con responsabilidad social***

LEARNING ACTIVITIES	CH	NCH	TH
Development and writing of records, reports, presentations, audiovisual material, etc. on projects/work experience/challenges/case studies/experimental investigations carried out individually and/or in teams	3 h.	1 h.	4 h.
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams	1 h.		1 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	50%	Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems
Presentation and defence of exercises, case studies, computer practical work, simulation practical work, laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems	50%	

CH - Class hours: 4 h.
NCH - Non-class hours: 1 h.
TH - Total hours: 5 h.

CONTENTS

1. Contextualisation of the current ecologic, economic and social crisis2. Analysis of the organisational challenges in the context of a transition to a just and sustainable socio-technical system3. Introduction to the concepts Life Cycle Thinking and Circular Economy and their practical applications4. Introduction to the main tools for Life Cycle Management and the criteria for their selection, adoption and use5. Deepening knowledge of the application of the tools Organisation Environmental Footprint (OEF), Life Cycle Assessment (LCA) and Life Cycle Cost (LCC)6. Introduction to the design of strategies for the implementation of the principles of Circular Economy in companies7. Description of the application of the tools and strategies to case studies

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources

Subject notes
Presentations by external Lecturers
Video projections
Technical articles

Bibliography

Curran, M. A. (2015). Life Cycle Assessment Student Handbook (1st ed.). Scrivener Publishing LLC.

Waterworth, D. (2020). A Beginners Guide to Life Cycle Assessment.

Ren, J., & Toniolo, S. (Eds.). (2020). Life Cycle Sustainability Assessment for Decision-Making. Elsevier.

Bauwens, T. (2021). 'Are the circular economy and economic growth compatible? A case for post-growth circularity', Resources, Conservation & Recycling, 175, p. 105852

Basque Ecodesign Center (2016). Ecodiseño para una economía circular