[MLC102] Digital Company

GENERAL INFORMATION

Studies	UNIVERSITY MASTER'S DEGREE IN PRODUCTIVE LOGISTICS OPERATIONS MANAGEMENT			**Subject**	?
Semester	1	**Course**	1	**Mention / Field of specialisation**	
Character	OPTIONAL				
Plan	2025	**Modality**	Face-to-face	**Language**	EUSKARA/CASTELLANO
Credits	3	**Hours/week**	0	**Total hours**	51 class hours + 24 non-class hours = **75 total hours**

2030 AGENDA GOALS

PROFESSORS

FERNANDEZ ARRIETA, MIGUEL
EGUREN EGUIGUREN, JOSE ALBERTO

REQUIRED PREVIOUS KNOWLEDGE

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

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
ML021 - Identifies, knows and understands the fundamental concepts and the impact and benefits of Industry 4.0 technologies applied to production and logistics operations	x			2,2
ML301 - 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	0,4
ML302 - Understands the impact of their profession on the environment in order to practice with social responsibility	x			0,4
			Total:	3

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

SECONDARY LEARNING RESULTS

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	7 h.	3 h.	10 h.

EVALUATION SYSTEM	W
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	100%

MAKE-UP MECHANISMS

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

CH - Class hours: 7 h.
NCH - Non-class hours: 3 h.
TH - Total hours: 10 h.

RML103 **[!]** ***Identifica, conoce y comprende los conceptos fundamentales y el impacto y beneficios de las tecnologías de la Industria 4.0 aplicados a las operaciones productivas y logísticas***

LEARNING ACTIVITIES	CH	NCH	TH
Presentation by the teacher in the classroom, in participatory classes, of concepts and	40 h.	15 h.	55 h.

procedures associated with the subjects

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	70%	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	30%	

CH - Class hours: 40 h.
NCH - Non-class hours: 15 h.
TH - Total hours: 55 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	4 h.	6 h.	10 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	100%	Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems

CH - Class hours: 4 h.
NCH - Non-class hours: 6 h.
TH - Total hours: 10 h.

CONTENTS

1. Industry 4.0 Technologies and Tools Applied to Operations Management2. Industry 4.0 Maturity Models3. Industry 4.0 Technology Use Cases:1. Cyber-Physical Systems2. Collaborative Robotics3. Additive Manufacturing4. Blockchain Applied to the Supply Chain5. Mixed Reality (Augmented and Virtual Reality)6. Artificial Intelligence: Data Analysis7. Industrial and Supply Chain Cybersecurity

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources

Subject notes
Moodle Platform

Bibliography

P. Leita˜o, A. W. Colombo and S. Karnouskos, “Industrial automation based on cyber-physical systems technologies:Prototype implementations and challenges,” Computers in Industry, vol. 81, pp. 11-25, 2016.

Guardian News & Media Limited, “Google Glass – hands-on review,” 2019. [Online]. Available: https://www.theguardian.com/technology/2013/jul/02/google-glass-review-augmented-reality. [Accessed 1 May 2019].

Lee, B. Bagheri and H.-A. Kao, “A Cyber-Physical Systems architecture for Industry 4.0-based manufacturing systems,” Manufacturing Letters, vol. 3, pp. 18-23, 2015.

Nayyar A., · Kumar A., A Roadmap to Industry 4.0: Smart Production, Sharp Business and Sustainable Development. Springer 2020. https://doi.org/10.1007/978-3-030-14544-6 “ IMPULS, Industrie 4.0 readiness, dr. Karl lichtblau dr.