Teaching Guide				
Identifying Data				2019/20
Subject (*)	Production Management		Code	730497210
Study programme	Mestrado Universitario en Enxeñaría Industrial (plan 2018)			
Descriptors				
Cycle	Period	Year	Type	Credits
Official Master's Degree	1st four-month period	First	Obligatory	4.5
Language	Spanish			
Teaching method	Face-to-face			
Prerequisites				
Department	Empresa			
Coordinador	Crespo Pereira, Diego	E-mail	diego.crespo@udc.es	
Lecturers	Crespo Pereira, Diego Ríos Prado, Rosa	E-mail	diego.crespo@udc.es rosa.rios@udc.es	
Web	http://www.gii.udc.es/			
General description	This subject teaches various methods for desingning and optimizing a production process from an operational point of view.			

Study programme competences / results	
Code	Study programme competences / results
A10	EG2 - Knowledge and skills of strategy and planning applied to different organizational structures.
A13	EG5 - Knowledge of management information systems, industrial organization, production systems and logistics and quality management systems.
A14	EG6 - Capacities for work organization and human resources management. Knowledge on prevention of occupational risks.
B2	CB7 - That students know how to apply the knowledge acquired and their ability to solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their area of ??study.
B3	CB8 - That students are able to integrate knowledge and face the complexity of making judgments based on information that, being incomplete or limited, includes reflections on the social and ethical responsibilities linked to the application of their knowledge and judgments.
B4	CB9 - That the students know how to communicate their conclusions -and the knowledge and ultimate reasons that sustain them- to specialized and non-specialized audiences in a clear and unambiguous way.
B13	G8 - Apply the knowledge acquired and solve problems in new or unfamiliar environments within broader and multidisciplinary contexts.
B14	G9 - Be able to integrate knowledge and face the complexity of making judgments based on information that, being incomplete or limited, includes reflections on social and ethical responsibilities linked to the application of their knowledge and judgments.
B15	G10 - Knowing how to communicate the conclusions -and the knowledge and ultimate reasons that sustain them- to specialized and non-specialized publics in a clear and unambiguous way.
C3	ABET (c) - An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
C6	ABET (f) - An understanding of professional and ethical responsibility.
C7	ABET (g) - An ability to communicate effectively.
C8	ABET (h) - The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.

Learning outcomes	
Learning outcomes	Study programme competences / results

Knowledge and skills of strategy and planning applied to different organizational structures.	AJ10	BJ2 BJ3 BJ4 BJ13 BJ14 BJ15	CJ6 CJ7 CJ8
Knowledge of management information systems, industrial organization, production systems and logistics and quality management systems.	AJ13	BJ2 BJ3 BJ4 BJ13 BJ14 BJ15	CJ3 CJ7 CJ8
Capacities for work organization and human resources management. Knowledge on prevention of occupational risks.	AJ14	BJ2 BJ3 BJ4 BJ13 BJ14 BJ15	CJ3 CJ6 CJ7 CJ8

Contents	
Topic	**Sub-topic**
1. Manufacturing processes	
2. ABC costs analysis	
3. Time measurement	
4. Layout design	
5. Assembly line desing and balancing problems	
6. Production control	
7. Industrial ergonomics and workplace design	
8. Maintenance	
9. Quality management and Six Sigma	
The following topics develop the contents established in the tab of the Memory that are:	Manufacturing processes. Time measurement. Industrial ergonomics and workplace design. Assembly line desing and balancing. Production control. Quality management and Six Sigma. Maintenance.

Planning				
Methodologies / tests	**Competencies / Results**	**Teaching hours (in-person & virtual)**	**Student?s personal work hours**	**Total hours**
ICT practicals	A10 A13 A14 B2 B13 B14 C3 C6 C8	18	18	36
Mixed objective/subjective test	A10 A13 A14 B2 B13 B15 B14 C3 C7 C8	3	7.5	10.5
Case study	A10 A13 A14 B2 B3 B4 B13 B15 B14 C3 C6 C7 C8	9	27	36
Guest lecture / keynote speech	A10 A13 A14 B2 B3 B4 B14 C3 C6 C8	15	15	30
Personalized attention		0		0
(*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.				

Methodologies

Methodologies	Description
ICT practicals	Problems to be solved on computer.
Mixed objective/subjective test	Final exam of this course.
Case study	Solving case studies proposed by the instructors.
Guest lecture / keynote speech	Lectures on the subject.

Personalized attention	
Methodologies	**Description**
Mixed objective/subjective test Guest lecture / keynote speech ICT practicals Case study	Tutorials for solving doubts and problems found during the course.

Assessment			
Methodologies	**Competencies / Results**	**Description**	**Qualification**
Mixed objective/subjective test	A10 A13 A14 B2 B13 B15 B14 C3 C7 C8	Final exam of this subject.	60
Case study	A10 A13 A14 B2 B3 B4 B13 B15 B14 C3 C6 C7 C8	Assessment of case studies proposed by the instructors.	40

Assessment comments
O "Alumnado con recoñecemento de dedicación a tempo parcial e dispensa académica de exención de asistencia" comunicarán ó inicio do curso a súa situación os profesores da materia, segundo establece a "Norma que regula o réxime de dedicación ao estudo dos estudantes de grao na UDC" (Art.3.b e 4.5) e as ?Normas de avaliación, revisión e reclamación das cualificacións dos estudos de grao e mestrado universitario (Art. 3 e 8b). Para os alumnos que soliciten a dispensa académica a avaliación será igual ao resto xa que os traballos serán completados fóra do horario de clases.

Sources of information

Basic	- Verma, Boyer (2010). Operations & Supply Chain Management. World class theory and practice.. Pearson Education - Slack, Nigel; Chambers, Stuart; Johnston, Robert (2007). Operations Management. Pearson Education - Lage Junior, Muris Godinho Filho, Moacir (2010). Variations of the kanban system: Literature review and classification. International Journal of Production Economics - Cesar, Flavio Fernandes, Faria Filho, Moacir Godinho (2011). Production control systems : Literature review , classification , and insights regarding practical application. African Journal of Business Management - Framinan, Jose M. González, Pedro L. Ruiz-Usano, Rafael (2003). The CONWIP production control system: Review and research issues. Production Planning & Control - Mula, J Poler, R Garciasabater, J Lario, F (2006). Models for production planning under uncertainty: A review. International Journal of Production Economics - Hoang Pham (2003). Handbook of reliability engineering. Springer - Gavriel Salvendy (2012). Handbook of Human Factors and Ergonomics, 4th Edition. Wiley
Complementary	

Recommendations
Subjects that it is recommended to have taken before
Subjects that are recommended to be taken simultaneously
Business Management/730497211
Subjects that continue the syllabus
Logistic Systems Simulation/730497233 Industrial Logistics/730497234 Advanced Production Systems/730497235 Industrial Process Design and Optimization Project/730497236 Industrial Innovation/730497213
Other comments

(*)The teaching guide is the document in which the URV publishes the information about all its courses. It is a public document and cannot be modified. Only in exceptional cases can it be revised by the competent agent or duly revised so that it is in line with current legislation.