Teaching Guide				
Identifying Data				2021/22
Subject (*)	Industrial Logistics		Code	730497234
Study programme	Mestrado Universitario en Enxeñaría Industrial (plan 2018)			
Descriptors				
Cycle	Period	Year	Type	Credits
Official Master's Degree	2nd four-month period	Second	Optional	4.5
Language	Spanish			
Teaching method	Face-to-face			
Prerequisites				
Department	Empresa			
Coordinador	Ríos Prado, Rosa	E-mail	rosa.rios@udc.es	
Lecturers	Ríos Prado, Rosa	E-mail	rosa.rios@udc.es	
Web				
General description	Subject in which will work on the logistics of the company: supply chain, location of facilities, routes, warehouses and transport.			
Contingency plan	1. Modifications to the contents No changes 2. Methodologies We use the same methodologies but using the virtual tools of the UDC 3. Mechanisms for personalized attention to students By the virtual tools of the UDC 4. Modifications in the evaluation We use the same way of evaluation but using the virtual tools of the UDC 5. Modifications to the bibliography or webgraphy			

Study programme competences / results	
Code	Study programme competences / results
A9	EG1 - Knowledge and skills to organize and manage companies.
A10	EG2 - Knowledge and skills of strategy and planning applied to different organizational structures.
A12	EG4 - Knowledge of financial accounting and costs.
A13	EG5 - Knowledge of management information systems, industrial organization, production systems and logistics and quality management systems.
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.
B6	G1 - Have adequate knowledge of the scientific and technological aspects in Industrial Engineering.
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.
C1	ABET (a) - An ability to apply knowledge of mathematics, science, and engineering.
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.
C9	ABET (i) - A recognition of the need for, and an ability to engage in life-long learning.
C11	ABET (k) - An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Learning outcomes			
Learning outcomes	Study programme competences / results		
Knowledge and skills to organize and manage companies.	AJ9 AJ10	BJ6 BJ13 BJ15	CJ11
Knowledge and skills of strategy and planning.	AJ10 AJ13	BJ2 BJ3 BJ4	CJ3
Knowledge of financial accounting and costs.	AJ12	BJ2	CJ1 CJ8
Knowledge of management information systems, industrial organization, production and logistics systems and quality management systems.	AJ9 AJ13	BJ14	CJ1 CJ6 CJ7
Knowledge about methods and techniques of transport and industrial maintenance.	AJ10 AJ13	BJ13 BJ14	CJ1 CJ3 CJ9

Contents	
Topic	Sub-topic
1. Supply chain management.	1. Xestión da cadea de suministro
2. Geographic information systems (GIS).	2. Sistemas de información xeográfica (GIS)
3. Facilities location methods.	3. Métodos de ubicación de instalacions
4. Desing and management of warehouses and inventories.	4. Deseño e xestión de almacens e inventarios
5. Transport.	5. Transporte
6. Route planning.	6. Planificación de rutas

Planning				
Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student?s personal work hours	Total hours

Guest lecture / keynote speech	A9 A10 A12 A13 B2 B15 B6 C6 C8 C9	10.5	13.5	24
Problem solving	A9 A10 A12 A13 B13 B14 C1	8.5	15.5	24
ICT practicals	A10 A13 C1 C11	10.5	19.5	30
Supervised projects	A9 A10 A12 A13 B2 B3 B4 B13 B15 B14 C1 C3 C6 C7 C8 C9 C11	2	26	28
Objective test	A9 A10 A12 A13 B3 B4 B6 C1 C3 C6 C7 C8 C9 C11	0	6	6
Personalized attention		0.5	0	0.5
(*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.				

Methodologies	
Methodologies	**Description**
Guest lecture / keynote speech	Classes of exposition of the lessons of the subject.
Problem solving	Resolution of exercises and logistical problems.
ICT practicals	Resolution of practical cases through software such as QGIS, Excel ...
Supervised projects	Resolution of practical cases supervised by teachers.
Objective test	Final exam of the subject.

Personalized attention	
Methodologies	**Description**
Supervised projects	Students will be tutored in the resolution process of the proposed cases. It will be held at agreed times between the student and the teacher, either in tutoring or outside of it.

Assessment			
Methodologies	**Competencies / Results**	**Description**	**Qualification**
Supervised projects	A9 A10 A12 A13 B2 B3 B4 B13 B15 B14 C1 C3 C6 C7 C8 C9 C11	One or several supervised works will be considered during the course, with different logistical problems to be solved by the student, using the tools taught during the course. Will have the tutorization of the teachers of the subject.	60
Objective test	A9 A10 A12 A13 B3 B4 B6 C1 C3 C6 C7 C8 C9 C11	Exam of the subject with both theoretical and practical questions.	40

Assessment comments

The "Students with recognition of part-time dedication and academic exemption of attendance exemption" will communicate at the beginning of the course their situation to the professors of the subject, as established by the "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). Work is not saved from one course to another, except in early opportunity as indicated below.For the students who request the academic exemption, the evaluation will be the same as for the rest since the works will be completed outside of class time. They will also have to go to the exam.Second-chance students have the possibility that they did not follow the continuous assessment, they may have an exam that evaluates the total of the competences, this being able to be different from those who acquired these competencies with the work and practices of the course. In case of wanting to be evaluated with the part of Tutored Works, they will be able to make a delivery of the same in the second opportunity, on the date indicated by the teachers.Early opportunity students will have their work done in the previous year saved. In the event that they do not follow the continuous assessment the previous year, they may have an exam that evaluates the total of the competences, which may be different from those who have already acquired said competences with the course work and practices.

Sources of information	
Basic	- (). . - Ballou, Ronald H. (2004). Logística: Administración de La Cadena de Suministro. Pearson Educación, México - Ballou, Ronald H. (1991). Logística empresarial : control y planificación. Díaz de Santos, Madrid - Mauleón, Mikel (2006). Logística y costos. Díaz de Santos, Madrid
Complementary	

Recommendations
Subjects that it is recommended to have taken before
Subjects that are recommended to be taken simultaneously
Subjects that continue the syllabus
Other comments
1. A entrega dos traballos documentais que se realicen nesta materia: 1.1. Solicitarase en formato virtual e/ou soporte informático.   1.2. Realizarase a través de Moodle, en formato dixital sen necesidade de imprimilos 1.3. De se realizar en papel: * Non se empregarán plásticos. * Realizaranse impresións a dobre cara. * Empregarase papel reciclado. * Evitarase a impresión de borradores.

(*)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.