Teaching Guide				
Identifying Data				2017/18
Subject (*)	Industrial Processes		Code	771G01010
Study programme	Grao en Enxeñaría de Deseño Industrial e Desenvolvemento do Produto			
Descriptors				
Cycle	Period	Year	Type	Credits
Graduate	2nd four-month period	Third	Obligatoria	6
Language	Spanish			
Teaching method	Face-to-face			
Prerequisites				
Department	Enxeñaría Naval e Industrial			
Coordinador	López López, Manuel	E-mail	manuel.lopez.lopez@udc.es	
Lecturers	López López, Manuel Moreno Madariaga, Alicia	E-mail	manuel.lopez.lopez@udc.es alicia.moreno@udc.es	
Web				
General description	The subject of Industrial Processes in the School of Industrial Design at the University of La Coruña is conceived as a compulsory subject 3rd course, which is to provide students with an overview of the applications and specific characteristics of different manufacturing processes employed currently in the industry.			

Study programme competences	
Code	Study programme competences
A1	Aplicar o coñecemento das diferentes áreas involucradas no Plano Formativo.
A2	Capacidade de comprensión da dimensión social e histórica do Deseño Industrial, vehículo para a creatividade e a búsqueda de solucións novas e efectivas.
A3	Necesidade dunha aprendizaxe permanente e continua (Life-long learning), e especialmente orientada cara os avances e os novos produtos do mercado.
A5	Identificar, formular e resolver problemas de enxeñaría.
A6	Formación amplia que posibilite a comprensión do impacto das solucións de enxeñaría nos contextos económico, medioambiental, social e global.
A7	Capacidade para deseño, redacción e dirección de proxectos, en todas as súas diversidades e fases.
A8	Capacidade de usar as técnicas, habilidades e ferramentas modernas para a práctica da enxeñaría.
A9	Capacidade para efectuar decisións técnicas tendo en conta as súas repercusións ou costes económicos, de contratación, de organización ou xestión de proxectos.
A10	Comprensión das responsabilidades éticas e sociais derivadas da súa actividade profesional.
B2	Aplicar un pensamento crítico, lóxico e creativo para cuestionar a realidade, buscar e propoñer solucións innovadoras a nivel formal, funcional e técnico.
B4	Traballar de forma colaborativa. Coñecer as dinámicas de grupo e o traballo en equipo.
B5	Resolver problemas de forma efectiva.
B6	Traballar de forma autónoma con iniciativa.
B9	Comunicarse de maneira efectiva nun entorno de traballo.
B10	Capacidade de organización e planificación.
B11	Capacidade de análise e síntese.
C3	Utilizar as ferramentas básicas das tecnoloxías da información e as comunicacións (TIC) necesarias para o exercicio da súa profesión e para a aprendizaxe ao longo da súa vida.
C6	Valorar criticamente o coñecemento, a tecnoloxía e a información dispoñible para resolver os problemas cos que deben enfrontarse.
C7	Asumir como profesional e cidadán a importancia da aprendizaxe ao longo da vida.
C8	Valorar a importancia que ten a investigación, a innovación e o desenvolvemento tecnolóxico no avance socioeconómico e cultural da sociedade.

Learning outcomes

Learning outcomes	Study programme competences		
After completing the course, students will be able to analyze and understand the different production processes used in the industry today, as well as specify the basic building needs and requirements that a product must meet to make viable production. In a complementary way, students will develop their teamwork skills, information search and management literature, writing papers, exhibition and public defense and critical analysis, among others	A1 A2 A3 A5 A6 A7 A8 A9 A10	B2 B4 B5 B6 B9 B10 B11	C3 C6 C7 C8

Contents	
Topic	Sub-topic
Unit I: Introduction to Manufacturing Processes.	TI - Introduction. TII - Materials.
Unit II: Solidification Processes	TIII - Metal Casting
Unit III: Metal Forming and Sheet Metalworking	TIV - Forging TV - Extrusion. TVI - Rolling TVII - Sheet metal working
Unit IV: Machining Processes.	TVIII ? Sawing TIX ? Fundamentals of Machining. TX ? Turning TXI ? Drilling. TXII ? Milling and Planing TXIII ? Abrasive Machining
Unit V: Special Processes.	TXIV ? Introduction to Laser Technology. TXV ? Advanced Machining Processes.

Planning				
Methodologies / tests	Competencies	Ordinary class hours	Student?s personal work hours	Total hours
Introductory activities	A1 A2 A3 A5 A10 A6 A7	1	0	1
Guest lecture / keynote speech	A1 A2 A5 A8 A9 B6 B9 B10	35	45	80
Problem solving	A9 B2 B4 B5 B6 B10 B11 C3 C6 C7 C8	9	15	24
Supervised projects	A5 A10 A6 A7 A8 A9 B2 B4 B5 B6 B9 B10 B11 C3 C6 C7 C8	5	20	25
Objective test	A1 B11 C3	3	15	18
Personalized attention		2	0	2
(*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.				

Methodologies	
Methodologies	Description
Introductory activities	Presentation of the subject.

Guest lecture / keynote speech	Theoretical classes in which the contents of the subject are developed.
Problem solving	Class will be resolved in a collection of exercises tests previous representative years of content covered in lectures.
Supervised projects	Students must prepare and submit public course work on any practical application of the contents of the subject. Given that the objectives of the course is to promote teamwork necessarily work will be performed in groups of two or three students at most.
Objective test	In addition to course work, students must take a final exam on the contents of the course, consisting of a series of short questions theoretical - practical, with an approximate total duration of hour and a half

Personalized attention	
Methodologies	**Description**
Supervised projects Problem solving	To consult any aspect that students deem appropriate, students will be available six hours a week dedicated teacher generally tutorials and rest periods between classes

Assessment			
Methodologies	**Competencies**	**Description**	**Qualification**
Supervised projects	A5 A10 A6 A7 A8 A9 B2 B4 B5 B6 B9 B10 B11 C3 C6 C7 C8	Work performed by the student	50
Objective test	A1 B11 C3	Examination of the contents of the subject	50
Others			

Assessment comments
Values in%. Attendance and class participation is assessed jointly, with a maximum score of 5%. To pass the course, students must achieve a total score more than five points (50%), as the sum of all items, without having established a minimum score required in any of the concepts.

Sources of information	
Basic	- S. Kalpakjian, S. R. Schmid (2008). Manufactura, Ingeniería y Tecnología, 5ª Edición. . Prentice Hall - M. Groover (2008). Fundamentos de Manufactura Moderna, 3º Edición.. McGraw Hill - W. M. Steen, J. Mazumder (2010). Laser Material Processing, 4th Edition.. Springer - Verlag - M. Dorronsoro. (1996). La Tecnología Láser. Fundamentos, aplicaciones y tendencias. Serie Electrotecnologías, nº 12.. McGraw Hill
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
As designed the program of the subject, no specific prior knowledge about the issues is not required, because these are addressed with the necessary depth.

(*)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.