UNIVERSIDADE DA CORUÑA

Teaching Guide				
Identifying Data				**2019/20**
Subject (*)	Advanced Computer Science and Integrated Design in Manufacturing		**Code**	771G01019
Study programme	Grao en Enxeñaría de Deseño Industrial e Desenvolvemento do Produto			
Descriptors				
Cycle	**Period**	**Year**	**Type**	**Credits**
Graduate	2nd four-month period	Third	Optional	6
Language	Spanish			
Teaching method	Face-to-face			
Prerequisites				
Department	Enxeñaría Naval e Industrial			
Coordinador	González Castro, Manuel Jesús		**E-mail**	manuel.gonzalez@udc.es
Lecturers	, Dopico Dopico, Daniel González Castro, Manuel Jesús		**E-mail**	alvaro.lopez1@udc.es daniel.dopico@udc.es manuel.gonzalez@udc.es
Web	http://moodle.udc.es			
General description	In this course you will learn to use SolidWorks 3D modeling software. It is not necessary to have previous knowledge of this software. The different CAD / CAE / CAM / PDM technologies will also be introduced to speed up the development of products.			

Study programme competences	
Code	**Study programme competences**
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.
A10	Comprensión das responsabilidades éticas e sociais derivadas da súa actividade profesional.
B5	Resolver problemas de forma efectiva.
C6	Acquiring skills for healthy lifestyles, and healthy habits and routines.
C7	Developing the ability to work in interdisciplinary or transdisciplinary teams in order to offer proposals that can contribute to a sustainable environmental, economic, political and social development.
C8	Valuing the importance of research, innovation and technological development for the socioeconomic and cultural progress of society.

Learning outcomes			
Learning outcomes	**Study programme competences**		
Model products with 3D CAD software (SolidWorks).	A5 A7 A8	B5	
Get basic knowledge of CAD/CAE/CAM/PDF and its applications in product design.	A5 A6 A7 A8 A10	B5	C6 C7 C8

Contents	
Topic	**Sub-topic**

3D CAD modelling with SolidWorks.	Parts.
	Assemblies.
	Drawings.
	Advanced features.
	Configurations.
	Introduction to surface modelling.
	Introduction to render and animation.
Os bloques ou temas seguintes desenvolven os contidos establecidos na ficha da Memoria de Verificación	Introduction. CAD (Computer Aided Design). CAE (Computer Aided Engineering). CAT (Computer Aided Testing). CAM (Computer Aided Manufacturing). CAPP (Computer Aided Processing and Planning). RE (Reverse Engineering). VR (Virtual Reality). RP&T (Rapid Prototyping and Tooling). CAT&M (Computer Aided Testing and Maintenance). PDM (Product Data Management).

Planning				
Methodologies / tests	Competencies	Ordinary class hours	Student?s personal work hours	Total hours
Introductory activities	C6 C7 C8	2	2	4
Guest lecture / keynote speech	A5 A10 A6	6	12	18
Laboratory practice	A5 A7 A8 B5	30	75	105
Problem solving	A5 A7 A8 B5	6	12	18
Workbook	A10 A6 C6 C7 C8	0	3	3
Mixed objective/subjective test	A5 A7 A8 B5 C6	1	0	1
Personalized attention		1	0	1

(*)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	Presentación da materia.
Guest lecture / keynote speech	Exposición de conceptos teóricos.
Laboratory practice	Prácticas na aula de informática.
Problem solving	Resolución de exercicios prácticos co software manexado na materia.
Workbook	Profundizar obre os contidos teóricos da materia.
Mixed objective/subjective test	Examenes teóricos (tipo test) e prácticos (resolución de problemas con computador) dos temas da materia.

Personalized attention	
Methodologies	Description
Problem solving	Help to solve the exercises proposed in the class.

Assessment			
Methodologies	Competencies	Description	Qualification
Mixed objective/subjective test	A5 A7 A8 B5 C6	Exámen(es) parcial(es) e exame final.	100
Others			

Assessment comments
At the beginning of the course, the calendar of tests to be performed and the value of each test will be defined.
Class attendance is recommended but not mandatory.
The evaluations will be made through Moodle, in digital format without the need to print on paper.

Sources of information	
Basic	- Manuel González (). Material docente de la asignatura.
	- Varios (). Ayuda y tutoriales de SolidWorks.
Complementary	

Recommendations
Subjects that it is recommended to have taken before
Computer Aided Design/771G01017
Subjects that are recommended to be taken simultaneously
Subjects that continue the syllabus
Product Development Technologies/771G01014
Project Workshop/771G01018
Other comments
Students will be provided with a student version of SolidWorks software to install on their personal computers. The
availability of these licenses for students is conditional on the
University of A Coruña paying the annual maintenance of the licenses at
the beginning of the academic year.