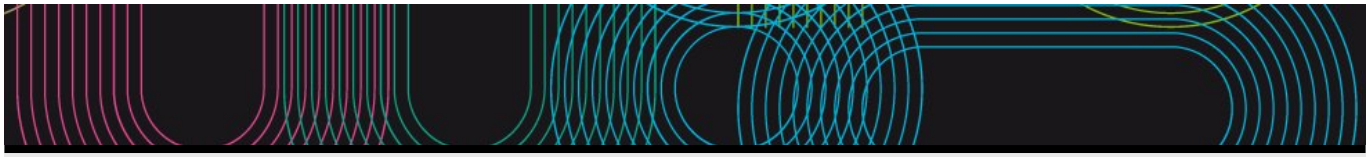

IDENTIFYING DATA				
Manufacturing technologies and systems				
Subject	Manufacturing technologies and systems			
Code	V12G340V01701			
Study programme	Grado en Ingeniería en Organización Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Mandatory	3rd	1st
Teaching language	#EnglishFriendly Spanish Galician			
Department				
Coordinator	Pérez García, José Antonio			
Lecturers	Peláez Lourido, Gustavo Carlos Pérez García, José Antonio			
E-mail	japerez@uvigo.es			
Web	http://https://moovi.uvigo.gal/login/index.php			
General description	This matter is "*English *Friendly"			

Skills	
Code	
B3	CG 3. Knowledge in basic and technological subjects that will enable them to learn new methods and theories, and equip them with versatility to adapt to new situations.
C15	CE15 Basic knowledge of production systems and manufacturing.
C30	CE30 Applied knowledge of systems and processes of manufacturing, metrology and quality control.
D2	CT2 Problems resolution.
D8	CT8 Decision making.
D9	CT9 Apply knowledge.
D10	CT10 Self learning and work.

Learning outcomes			
Expected results from this subject	Training and Learning Results		
(*)	B3	C15 C30	D2 D8 D9 D10

Contents	
Topic	
Unit 1.- Industrialization of Products	Chapter 01.- Concurrent Engineering and DFMA Chapter 02.- Product Specifications for Manufacturing Chapter 03.- Industrialization of Products Chapter 04.- Manufacturing Costs
Unit 2.- Manufacturing Technologies	Chapter 05.- Molding of metals and plastics Chapter 06.- Metal forming Chapter 07.- Machining Chapter 08.- Composites manufacturing processes Chapter 09.- Additive Manufacturing

Planning

	Class hours	Hours outside the classroom	Total hours
Lecturing	12	26	38
Problem solving	16	39	55
Laboratory practical	6	12	18
Project based learning	10	24	34
Objective questions exam	2	0	2
Project	4	0	4

*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

	Description
Lecturing	The theoretical classes will be carried out combining the blackboard explanations with the use of transparencies, videos and computer presentations.
Problem solving	Problem solving The purpose of these classes is to complement the content of the notes, interpreting the concepts in these exposed through the sample of examples and performing exercises
Laboratory practical	The practical laboratory classes will be held in groups of 20 students maximum, and using the resources available both in the laboratories of the IPF Area and in the Computer Rooms at the EEI-Campus
Project based learning	The student will develop a product design and manufacturing project in which the knowledge acquired in the subject will be put into practice

Personalized assistance

Methodologies	Description
Lecturing	Both in class and in the tutorial hours, that the teacher will communicate to the students at the beginning of the course (both in person and online through Remote Campus)
Laboratory practical	Both in class and in the tutorial hours, that the teacher will communicate to the students at the beginning of the course (both in person and online through Remote Campus)
Project based learning	Both in class and in the tutorial hours, that the teacher will communicate to the students at the beginning of the course (both in person and online through Remote Campus)
Problem solving	Both in class and in the tutorial hours, that the teacher will communicate to the students at the beginning of the course (both in person and online through Remote Campus)

Assessment

	Description	Qualification	Training and Learning Results		
Objective questions exam	Final Exam	70	B3	C15	D2 D8 D9 D10
Project	Project: Component Design and Manufacture: Final Repot	30	B3	C15 C30	D2 D8 D9 D10

Other comments on the Evaluation

FIRST OPPORTUNITY

All students of the subject will be evaluated based on two parameters:

- Theoretical component and problem solving. It constitutes 70% of the final grade for the course. It will be evaluated by conducting written exams.
- Practice Component. It constitutes 30% of the final grade for the course. It will be evaluated by carrying out the Subject Projects

Other considerations:

- Those students who obtain, between all the two sections, a grade equal to or greater than 5 points, not having obtained less than 40% of the maximum grade obtainable in each of them, will pass the subject. The Final Grade for those students who do not meet this last condition will be equal to or less than 4 (scale 0 to 10)
- The Project of the subject may require the use of software and equipment available at the facilities of the EEI

SECOND OPPORTUNITY The evaluation method is the same as that described for the FIRST OPPORTUNITY
FINAL CONSIDERATIONS:

- In case of discrepancy between the content of the Teaching Guide in its Spanish, Galllego and English versions, the provisions of the Spanish version will prevail.
- Ethical commitment: The student is expected to present appropriate ethical behavior. In the case of detecting unethical behavior (copying, plagiarism, use of unauthorized electronic devices, and others), the student will be considered as not meeting the necessary requirements to pass the subject. In this case, the overall grade in this academic year will be suspended (0.0).

Sources of information

Basic Bibliography

AENOR, **AENORmas (Norweb)**, AENOR, 2021

Campbell, John, **Complete Casting Handbook**, 2, Elsevier, 2015

Groover, Mikell P., **Automation, Production Systems, and Computer Integrated Manufacturing**, 4ª, Pearson, 2016

Rovira, Norbert, **Fusion 360 con ejemplos y ejercicios prácticos**, 1ª, Marcombo, 2020

Complementary Bibliography

Rubio Alvir, Eva, **Ejercicios y problemas de mecanizado**, 1ª, Pearson Educación, 2011

Mikell P. Groover, **Principles of Modern Manufacturing**, 5ª, Wiley, 2013

J.T. Black, Ronald A. Kohser, **Degarmo's materials and processes in manufacturing**, 12th ed, Wiley, 2017

Serope Kalpakjian, Steven R. Schmid, **Manufacturing engineering and technology**, 7ª, Pearson Education,, 2014

Recommendations

Subjects that are recommended to be taken simultaneously

Control and industrial automation/V12G340V01702
Quality, safety and sustainability management/V12G340V01602
Materials engineering/V12G340V01803
Operations management/V12G340V01601

Subjects that it is recommended to have taken before

Materials science and technology/V12G340V01301
Fundamentals of manufacturing systems and technologies/V12G340V01305