UniversidadeVigo

Subject Guide 2020 / 2021

IDENTIFYIN	G DATA				
Computer-A	Vided Mechanical Design				
Subject	Computer-Aided				
Code					
Study	VU4M141VU1310 (*)Mástor				·
programme	Universitario en				
programme	Enxeñaría				
	Industrial				
Descriptors	ECTS Credits		Choose	Year	Quadmester
	6		Optional	2nd	1st
Teaching	English				
language					
Department	Cocorolog Dui- Endance				
	Casarejos Ruiz, Enrique				
Lecturers					
L-IIIdll Web	e.casarejos@uvig0.es				
General	Machine Design Jising CAF te	chniques			
description	. actime Design using CAL IC				
Comnetenci	ies				
Code					
A2 That the	students can apply their know	wledge and their abilit	y to solve problem	s in new or unfamil	iar environments
within b	roader (or multidisciplinary) c	ontexts related to their	r field of study.		
A3 That stu that was knowled	idents are able to integrate kr s incomplete or limited, includ lge and judgments.	nowledge and handle c le reflecting on social a	omplexity and form and ethical respons	nulate judgments b sibilities linked to th	based on information ne application of their
C1 CET1. P	roject, calculate and design pr	roducts, processes, fac	ilities and plants.		
C14 CTI3. Ab	pility to design and test maching	nes.			
Learning ou	Itcomes				
Expected res	ults from this subject				Training and Learning Results
- Integration	of components in the design c	of machines.			A2
- Know and a	pply the computational techni	icians of *modelado 2D) and 3D to the me	chanical design.	A3
- Complemer	nt the classical calculation of e	elements of machines,	and the cinematic	and dynamic	C1
calculations of	or mechanisms with computat	ional technicians.			014
Contents					
Topic					
Presentation		# Syllabus, pla # Linked subje	nning, and assignr cts	nents.	
			Modeling Parama	storization	
CAL LUUIS		# CAD. Design # Analytical ca	lculation (normativ		
		# Numerical ca	alculation (FEM).	~~/	
Power, Senso	ors & Actuators	General introdu	uction to:		
,		# Power			
		# Sensors			
		# Actuators			
Rigidity of st	ructures of machines	# General requ	irements		
		# Requirement	ts of rigidity		
		# Requirement	s for vibration dun	nping	
			inguiations		

Precision machines.	# Basic concepts of design. Errors.# Thermal effects.# Linear transmission. Measure.
Advanced topics.	 # Machines with extreme requirements. # Restrictions. Kinematic coupling. # Flexures. # MEMS.
Project	Presentation of personal works

Planning

	Class hours	Hours outside the classroom	Total hours
Introductory activities	4	0	4
Presentation	20	0	20
Case studies	6	0	6
Problem solving	6	0	6
Problem and/or exercise solving	0	12	12
Laboratory practice	12	0	12
Project	0	90	90
*The information in the planning table is for	or guidance only and does no	ot take into account the het	erogeneity of the students

Methodologies	
	Description
Introductory activities	Review of design & analysis cases
Presentation	Lectures about specific topics
Case studies	Discussion of practical cases
Problem solving	Discussion of exercises

Personalized assistance			
Tests	Description		
Problem and/or exercise solving	Individual discussion about the resolution of problems and/or exercises proposed.		
Laboratory practice	Individual resolution of problems and/or exercises proposed.		
Project	Individual discussion to solve the doubts about the selected case		

Assessment				
	Description	Qualificatio	n	Training and
				Learning Results
Problem and/or	Resolution of exercises and problems, by means of analytical	20	A2	C1
exercise solving	calculation and/or by means of the use of software of calculation		Α3	C14
Project	Resolution of a realistic case using proper tools for design, analysis and	80	_A2	C1
	simulation.		A3	C14
			-	

Other comments on the Evaluation

The continuous evaluation will be done considering both the regular exercises and the project handed in by the students.

If students give up (officially) the continuous evaluation, the evaluation will be done considering only the project.

Ethical commitment: It is expected an adequate ethical behaviour of the student. In case of detecting unethical behaviour (copying, plagiarism, unauthorized use of electronic devices, etc.) shall be deemed that the student does not meet the requirements for passing the subject. In this case, the overall rating in the current academic year will be Fail (0.0).

The use of any electronic device for the assessment tests is not allowed unless explicitly authorized. The fact of introducing unauthorized electronic device in the examination room will be considered reason for not passing the subject in the current academic year and will hold overall rating (0.0).

Sources of information

Basic Bibliography

Slocum, A.H., Precision Precision Machine Machine Design, SME Press, 1992

Lopez de Lacalle N., Lamikiz Mentxaka A. (Eds.), **Machine Tools for High Performance Machining**, Springer-Verlag London, 2009

Complementary Bibliography

Recommendations

Subjects that it is recommended to have taken before

Mechanical Engineering Design/V04M141V01114

Contingency plan

Description

=== EXCEPTIONAL PLANNING ===

Given the uncertain and unpredictable evolution of the health alert caused by COVID-19, the University of Vigo establishes an extraordinary planning that will be activated when the administrations and the institution itself determine it, considering safety, health and responsibility criteria both in distance and blended learning. These already planned measures guarantee, at the required time, the development of teaching in a more agile and effective way, as it is known in advance (or well in advance) by the students and teachers through the standardized tool.

=== ADAPTATION OF THE METHODOLOGIES ===
* Teaching methodologies maintained
Planed as it is

* Teaching methodologies modified Not planed modifications

* Non-attendance mechanisms for student attention (tutoring) Tutoring will be continued by online meetings

* Modifications (if applicable) of the contents Not planed modifications

* Additional bibliography to facilitate self-learning Not changed

* Other modifications

=== ADAPTATION OF THE TESTS === Not changed

* Additional Information