



		[GMC302] GRAPHI	C EXPRESS	ON II				
		GENERAL IN	ORMATION					
Studies D	EGREE IN ME	CHANICAL ENGINEERING	Subject	GRAPHIC EXF	PRESS	SION		
Semester 2		Course 1	Mention / Field of					
Character C	OMPULSORY		specialisation					
Plan 20	022	Modality Face-to-face	Language	EUSKARA				
Credits 6		Hours/week 4.97	Total hours	89.5 class hou <u>hours</u>	rs + 60	).5 non	-class hou	urs = <u>150 tot</u>
		2030 AGENI	DA GOALS					j
8 ECONTRECTOR								
		PROFES	SORS					
LARRAÑAGA	A AMILIBIA, JON	١						
IÑURRITEGU	JI MARROQUIN	I, AUREA						
AZPI-IÑURRI	IETA GALPARS	ORO, ANE (GOIERRI)						
		REQUIRED PREVIC	US KNOWLED	GE				
	Subje	ects		Know	ledge	•		
GRAPHIC EXPRES	SION I		(1	No previous kno	wledg	e requi	ired)	
		LEARNING	RESULTS					
LEARNING RESUL	TS				кс	SK	AB	ECTS
becoming aware of the proposed avant-garde, demon with a high degree of <b>G-RTR2</b> - To express coherent manner, or sources, using incluse	respect for hum sed solutions on hstrating the abil of autonomy s information, id rally and in writin sive and non-dis	an rights and fundamental rights, ar the SDGs - to acquire and/or apply ity to work in multidisciplinary teams eas and the arguments that suppor ng, based on quality information, se scriminatory language	nd analyzing and ass v basic, advanced an s and/or undertake fu t them in an orderly, lf-made or obtained	sessing the Id/or urther studies clear and from different		x		0,24
KC: Knowledge or Conte	ent / SK: Skills / AB:	Abilities					Total:	6
ENAEE LEARNING	G RESULTS							
ENA102 - Knowledg necessary to acquir	ge and comprehe re the rest of the	ension: Knowledge and comprehen competencies of the degree, includ	sion of the engineeri ding notions of the la	ng disciplines o itest advances.	f their	specia	lity, at the	level
ENA104 - Analysis in relevant analytical, ENA105 - Analysis in adequately establis	n engineering: 1 calculation and n engineering: 1 bed analytical	The ability to analyse complex produces a complex produces of the ability to identify, formulate and calculation and experimental methological methological and experimental and experimental and experimental methological and experimental and exp	ucts, processes and way; and correctly in solve engineering p ds: and acknowledge	systems in their nterpret the resu roblems in their	field of a lits of a special of so	of study such a ality; ch cial, be	/; choose nalyses. loose and ealth and s	and apply apply
environmental, ecor	nomic, and indu	strial restrictions.	ompley products (pa		e finiel	hed nr	oducts et	- )
processes and system environmental, ecor	ems of their spe nomic and indus	eciality, which meet the established strial aspects, as well as selecting a	requirements, includ nd applying appropr	ling awareness iate project met	of the hods.	social,	health an	d safety,
ENA113 - Practical a processes, and thei	application of er ir limitations in tl	ngineering: Knowledge of application he field of their speciality.	n of materials, equip	ment and tools,	engine	eering	technolog	y and
ENA114 - Practical a ENA119 - Communi engineering and wit	application of er ication and Tear	ngineering: Ability to apply standard nwork: Ability to effectively commur	s of engineering prach nicate information, id	ctice in their spe eas, problems a	and sol	utions	in the field	d of
ENA120 - Communi and to cooperate wi	ication and Tear ith both enginee	nwork: Ability to operate effectively ers and people from other discipline:	in domestic and inte s.	rnational contex	kts, ind	lividual	ly and as	a team,

# SECONDARY LEARNING RESULTS

2RGM190 (2 sem)						
LEARNING ACTIVITIES			СН	NCH	тн	
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in 1,5 h. 1,5 h. 1,5 h.				3 h.		
EVALUATION SYSTEM	W	MAKE-UP MECHAN	SMS			
Reports on the completion of exercises, case studies,	100%		(No mecha	anisms)		





computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems Comments: Continuous evaluation. FEEDBACK received from the tutor in the project follow-up meetings

Comments: Continuous evaluation. FEEDBACK received from the tutor in the project follow-up meetings

CH - Class hours: 1,5 h. NCH - Non-class hours: 1.5 h. TH - Total hours: 3 h.

## 2RGM192 (2 sem)

LEARNING ACTIVITIES	СН	NCH	ТН	
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to printerdisciplinary contexts, real and/or simulated, individually and/or in teams	problems in 1,5 h.	1,5 h.	3 h.	
EVALUATION SYSTEM W MAKE	UP MECHANISMS			

Reports on the completion of exercises, case studies, 100% computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems Comments: Continuous evaluation. FEEDBACK received from the tutor in the project follow-up meetings

(No mechanisms) Comments: Continuous evaluation. FEEDBACK received from the tutor in the project follow-up meetings

CH - Class hours: 1,5 h. NCH - Non-class hours: 1,5 h. TH - Total hours: 3 h.

RGM123 [!] Entiende el objetivo y funcionamiento de un conjunto mecánico y representar correctamente las piezas de cualquier conjunto siguiendo las normas de representación

LEARNING ACTIVITIES	СН	NCH	тн
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	2 h.	2 h.	4 h.
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams	1 h.	2 h.	3 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	5 h.	2 h.	7 h.
Carrying out exercises and solving problems individually and/or in teams	9 h.	8 h.	17 h.
Practical work in workshops and/or laboratories, individually and/or in teams	2 h.	3 h.	5 h.
Comments: The practical exercises are carried out with state-of-the-art machines and equipme	nt.		

w **EVALUATION SYSTEM** MAKE-UP MECHANISMS 45% Reports on the completion of exercises, case studies, (No mechanisms) computer exercises, simulation exercises, laboratory

10%

45%

Comments: There will be no make-up exams, there is the possibility of reviewing them with the lecturers before handing them in. The individual test will have a make-up exam, the first exam will have a weight of 25 % and the make-up exam will have a weight of 75 %. If the minimum mark is not reached, the exam mark will be considered as the total learning mark.

CH - Class hours: 19 h. NCH - Non-class hours: 17 h. TH - Total hours: 36 h.

coding/programming tests

exercises, term projects, challenges and problems

computer practical work, simulation practical work,

project, master's thesis, challenges and problems Individual written and/or oral tests or individual

Presentation and defence of exercises, case studies,

laboratory practical work, term projects, end of degree

RGM125 [!] Acotar correctamente cualquier pieza de un conjunto mecánico, definiendo si fuesen necesarias, las tolerancias



Course: 2024 / 2025 - Course planning



para su correcto funcionamiento

LEARNING ACTIVITIES			СН	NCH	тн
Conducting tests, giving presentations, presenting defences,	, taking	examinations and/or doing	5 h.	5 h.	10 h.
Carrying out/resolving projects/challenges/cases, etc. to prov	vide sol	lutions to problems in	4 h.	3 h.	7 h.
interdisciplinary contexts, real and/or simulated, individually a	and/or i	in teams	33 h	12 h	15 h
	/Of In te	eams		1211.	40 11.
EVALUATION SYSTEM Reports on the completion of exercises, case studies	45%	MAKE-UP MECHANISM	IS (No mechi	anisms)	
computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems Presentation and defence of exercises, case studies, computer practical work, simulation practical work, laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems Individual written and/or oral tests or individual coding/programming tests	10% 45%	<b>Comments:</b> There will be possibility of reviewing the in. The individual test will h have a weight of 25 % and 75 %. If the minimum mark considered as the total lea	e no make m with the nave a ma I the make k is not rea Irning mar	i-up exams, thu ↓ lecturers befor ke-up exam, th →-up exam will ached, the exa k.	ere is the ore handing them ne first exam will have a weight of m mark will be
CH - Class hours: 42 h. NCH - Non-class hours: 20 h. TH - Total hours: 62 h.					
<b>2RGM193</b> (2 sem) <b>LEARNING ACTIVITIES</b> Development and writing of records, reports, presentations, a projects/work experience/challenges/case studies/experimer individually and/or in teams	audiovi: ntal inve	sual material, etc. on estigations carried out	CH 1,5 h.	<b>NCH</b> 1,5 h.	<u>ТН</u> 3 h.
EVALUATION SYSTEM	100%	MAKE-UP MECHANISM	IS Mo mechi	onieme)	
computer practical work, simulation practical work, laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems <b>Comments:</b> Continuous evaluation. FEEDBACK received fro tutor in the project follow-up meetings <b>CH - Class hours:</b> 1,5 h. <b>NCH - Non-class hours:</b> 1,5 h.	om the	<b>Comments:</b> Continuous tutor in the project follow-u	evaluatior ip meeting	I. FEEDBACK IS	received from the
TH - Total hours: 3 h.					
2RGM194 (2 sem)					
LEARNING ACTIVITIES			СН	NCH	ТН
Development and writing of records, reports, presentations, a projects/work experience/challenges/case studies/experimen individually and/or in teams	audiovis ntal inve	sual material, etc. on estigations carried out	1,5 h.	1,5 h.	3 h.
EVALUATION SYSTEM	W	MAKE-UP MECHANISM	IS		
Presentation and defence of exercises, case studies, computer practical work, simulation practical work, laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems	100%	<b>Comments:</b> Continuous tutor in the project follow-u	(No mecha evaluatior ip meeting	anisms) 1. FEEDBACK IS	received from the

**Comments:** Continuous evaluation. FEEDBACK received from the tutor in the project follow-up meetings





CH - Class hours: 1,5 h. NCH - Non-class hours: 1,5 h. TH - Total hours: 3 h.

#### 2RGM191 (2 sem)

LEARNING ACTIVITIES			СН	NCH	тн
Carrying out/resolving projects/challenges/cases, etc. to interdisciplinary contexts, real and/or simulated, individua	utions to problems in in teams	1,5 h.	1,5 h.	3 h.	
EVALUATION SYSTEM	W	MAKE-UP MECHANI	SMS		
Reports on the completion of exercises, case studies, 100% computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems <b>Comments:</b> Continuous evaluation. FEEDBACK received from the utor in the project follow-up meetings		<b>Comments:</b> Continuo tutor in the project follow	(No mech us evaluation w-up meeting	anisms) n. FEEDBACK js	í received from the
CH - Class hours: 1,5 h. NCH - Non-class hours: 1,5 h. TH - Total hours: 3 h.					

LEARNING ACTIVITIES			СН	NCH	ТН
Conducting tests, giving presentations, presenting defend checkpoints	ces, takinę	g examinations and/or doing	2 h.	2 h.	4 h.
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams				2 h.	3 h.
Presentation by the teacher in the classroom, in participa procedures associated with the subjects	ses, of concepts and	6 h.	3 h.	9 h.	
Carrying out exercises and solving problems individually and/or in teams				6 h.	15 h.
Practical work in workshops and/or laboratories, individually and/or in teams				3 h.	6 h.
EVALUATION SYSTEM	w	MAKE-UP MECHANISM	IS		
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems Presentation and defence of exercises, case studies, computer practical work, simulation practical work, aboratory practical work, term projects, end of degree project, master's thesis, challenges and problems Individual written and/or oral tests or individual coding/orgaramming tests	40% 10% 50%	<b>Comments:</b> There will b possibility of reviewing the in. The individual test will l have a weight of 25 % and 75 %. If the minimum mar considered as the total lea	(No mech e no make m with the have a ma d the make k is not rea irning mar	anisms) e-up exams, th e lecturers befo ke-up exam, ti e-up exam will ached, the exa k.	ere is the bre handing ther he first exam wil have a weight o m mark will be

NCH - Non-class hours: 21 h. TH - Total hours: 37 h.

### CONTENTS

1. The Representation of Mechanical Components2. Tolerances

a. Dimensional tolerances b. Surface tolerances c. Geometric tolerances





3. Representation of plans

- 4. Knowledge of commercial mechanical elements
- a. Identification of the commercial mechanical elements of a plane
- b. Identification of characteristics to ensure the correct use of mechanical elements according to catal og and rules (Use of updated catalogues)

#### LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
Topic related web quires Moodle Platform Class presentations Lab practical training	PRECIADO BARRERA, Cándido; MORAL GARCIA Francisco Jesus.Normalización del dibjuo técnico. 1ª Edición. Donostia: Editorial Donostirarra, 2004. AURIA APILLUELO, José M; IBAÑEZ CARABANTES, Pedro; UBIETO ARTUR, Pedro. Dibujo Industrial Conjuntos y Despieces. 2ª Edición. Madrid: Thomson 2005.
	JENSEN, Cecil. Geometic dimensioning & tolerancing. Albany,Delmar 2003.
	PUNCOCHAR, Daniel E. Interpretation of Geometric dimensioning and tolerancing. 2 <sup>a</sup> Edición. New York: Industrial Press, 1997.