

m Mondragon Unibertsitatea Goi Eskola Politeknikoa Escuela Politécnica Superior

	GENERAL IN	FORMATION				
Studios DECREE IN ME		Subject	2			
Semester 1		Subject Mention / Field of	ſ			
	Course 3	specialisation				
	Medality Econ to food	Longuaga				
Fian 2022	Modality Face-to-face	Language	EUSKARA/CASI	ELLANO/E		140 E
Credits 4,5	Hours/week 3.06	l otal nours	55 class hours + hours	57.5 non-c	lass nours	5 = <u>112.5</u>
	2030 AGEN	IDA GOALS				
	PROFE	SSORS				
TORCA DE LA CONCEPCIÓ	ÓN, IRENEO					
LARRANAGA SERNA, MIRE	EN					
AZPI-OTEGUI ARRUTI, JON	N (GOIERRI)					
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Subje	ects		Knowle	dge	···· · · · ·	
LASTICITY AND RESISTANCE C	OF MATERIALS I	(1	vo previous knowi	leage requi	rea)	
	LEARNING	RESULTS				
EARNING RESULTS				кс ѕк	AB	ECTS
MR308 - To apply knowledge about	ut the fundamentals of elasticity an	d resistance of materi	als to the	x		3,78
ehavior of real solids	irv projects specific to their specialt	v and of gradual comr	olexity -	x		0.4
npact of the proposed solutions or	n the SDGs - to acquire and/or app	ly basic, advanced an	d/or			
vant-garde, demonstrating the abi ith a high degree of autonomy RTR2 - To express information, ic pherent manner, orally and in writi	lity to work in multidisciplinary tean deas and the arguments that suppo ing, based on quality information, s	ns and/or undertake fu ort them in an orderly, elf-made or obtained	urther studies clear and from different	x		0,32
vant-garde, demonstrating the abi ith a high degree of autonomy -RTR2 - To express information, ic oherent manner, orally and in writi ources, using inclusive and non-di	lity to work in multidisciplinary tean deas and the arguments that suppo ing, based on quality information, s iscriminatory language	ns and/or undertake fu ort them in an orderly, elf-made or obtained t	urther studies clear and from different	x	Total [.]	0,32
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engineering and with society in general.

ENA120 - Communication and Teamwork: Ability to operate effectively in domestic and international contexts, individually and as a team, and to cooperate with both engineers and people from other disciplines.

ENA121 - Continued training: Ability to acknowledge the need for their own continued training and to undertake this activity throughout their professional life independently.

ENA122 - Continued training: Ability to stay up to date on science and technology innovations.

SECONDARY LEARNING RESULTS

1RGM392 (1 sem)

LEARNING ACTIVITIES			СН	NCH	тн
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.
EVALUATION SYSTEM	W	MAKE-UP MECHANI	SMS		
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	100%	Reports on the comple exercises, simulation projects, challenges a Comments: Continuo tutor and the experts in	etion of exer exercises, la nd problems us evaluatio the project f	cises, case stu boratory exerc n. FEEDBACK ollow-up meeti	idies, computer ises, term received from th ngs

CH - Class hours: 1 h. NCH - Non-class hours: 2 h. TH - Total hours: 3 h.

RGM322 [!] Modeliza y dimensiona los elementos estructurales de un prototipo, y realiza el análisis crítico de los resultados.

LEARNING ACTIVITIES	СН	NCH	ТН
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in	10 h.	17 h.	27 h.
interdisciplinary contexts, real and/or simulated, individually and/or in teams			

Comments: Analyses and evaluates structural components to fulfill working and safety conditions, considering manufacturing and economic criteria. Calculation is carried out by the updated version of SolidWorks Simulation.

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EVALUATION SYSTEM

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 **Comments:** Students have the responsibility of meeting the experts to do the tracking of the project and to ensure the achievement of the goals. MAKE-UP MECHANISMS

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

Comments: Continuous assessment and project feedback.

CH - Class hours: 10 h. NCH - Non-class hours: 17 h. TH - Total hours: 27 h.

RGM321 [!] Calcula y dimensiona los elementos estructurales sometidos a solicitacione	s compue	estas	
LEARNING ACTIVITIES	СН	NCH	тн
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	2 h.	18 h.	20 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	23 h.		23 h.
Carrying out exercises and solving problems individually and/or in teams Comments: Analyses and evaluates structural components, to fulfill working and safety condition	2 h. ONS.		2 h.



Mondragon Unibertsitatea Goi Eskola Politeknikoa Escuela Politécnica Superior

1 h.

3,5 h.

2,5 h.

Course: 2024 /	2025 -	Course	planning
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EVALUATION SYSTEM	W	MAKE-UP MECHANIS	MS		
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	25%	Individual written and/or coding/programming te	r oral tests o sts	or individual	
Individual written and/or oral tests or individual coding/programming tests	75%				
Comments: a) If C1 > 4: N1=C1*0.75+E1*0.25 If N1 < 5, Errekuperazioa egin behar da: N1f = N1*0.25+R1*0.75 If N 1f= N1 b) If C1 < 4, Errekuperazioa egin behar da: 1f=C1*0.25+R1*0.75	√1 > 5:				
CH - Class hours: 27 h. NCH - Non-class hours: 18 h. IH - Total hours: 45 h.					
1RGM391 (1 sem)					
LEARNING ACTIVITIES			СН	NCH	тн
Carrying out/resolving projects/challenges/cases, etc. to pinterdisciplinary contexts, real and/or simulated, individua	provide so ally and/or	lutions to problems in in teams	1 h.	2 h.	3 h.
EVALUATION SYSTEM	W	MAKE-UP MECHANIS	MS		
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	100%	Presentation and defen- practical work, simulation term projects, end of defended and problems Comments: Continuou tutor and the experts in t	ce of exerci on practical gree project s evaluatior he project fr	ises, case stud work, laborato zt, master's the n. FEEDBACK ollow-up meeti	lies, computer iry practical worl sis, challenges received from the ngs
CH - Class hours: 1 h. ICH - Non-class hours: 2 h. IFH - Total hours: 3 h.					
RGM320 [!] Calcula y analiza la deformación de viga	s				
LEARNING ACTIVITIES			СН	NCH	тн
Conducting tests, giving presentations, presenting defend checkpoints	ces, taking	examinations and/or doinc	2 h.	7 h.	9 h.
Presentation by the teacher in the classroom, in participa procedures associated with the subjects	tory classe	es, of concepts and	9 h.		9 h.

Carrying out exercises and solving problems individually and/or in teams 1 h. Practical work in workshops and/or laboratories, individually and/or in teams 1 h. **Comments:** State-of-the-art machines and equipment are used for the execution of the practical exercises.

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EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	25%	Individual written and/or oral tests or individual coding/programming tests
Individual written and/or oral tests or individual coding/programming tests Comments: a) If C1 > 4: N1=C1*0.75+E1*0.25 If N1 < 5, Errekuperazioa egin behar da: N1f = N1*0.25+R1*0.75 If N1 N1f= N1 b) If C1 < 4, Errekuperazioa egin behar da: N1f=C1*0.25+R1*0.75	75% > 5:	
CH - Class hours: 13 h. NCH - Non-class hours: 9,5 h. TH - Total hours: 22,5 h.		



LEARNING ACTIVITIES			СН	NCH	тн
Development and writing of records, reports, presentation projects/work experience/challenges/case studies/experin individually and/or in teams	s, audiovi nental inve	sual material, etc. on estigations carried out	1 h.	3 h.	4 h.
EVALUATION SYSTEM	W	MAKE-UP MECHANIS	MS		
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%	Comments: Continuou tutor and the experts in t	<i>(No mech</i> s evaluation he project f	<i>anisms)</i> n. FEEDBACK ollow-up meeti	received from ngs
H - Class hours: 1 h. CH - Non-class hours: 3 h. H - Total hours: 4 h.					
RGM390 (1 sem)					
LEARNING ACTIVITIES		lutione te encluiere in	CH	NCH	<i>TH</i>
Carrying out/resolving projects/challenges/cases, etc. to p nterdisciplinary contexts, real and/or simulated, individual	lly and/or i	in teams	1 n.	3 n.	4 n.
EVALUATION SYSTEM	W	MAKE-UP MECHANIS	MS		
computer exercises, simulation exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	10078	practical work, simulati term projects, end of de and problems Comments: Continuou tutor and the experts in t	on practical egree proje s evaluation he project f	n. FEEDBACK ollow-up meeti	received from ngs
H - Class hours: 1 h. CH - Non-class hours: 3 h. H - Total hours: 4 h.					
RGM393 (1 sem)					
LEARNING ACTIVITIES			СН	NCH	ТН
Development and writing of records, reports, presentation projects/work experience/challenges/case studies/experin ndividually and/or in teams	s, audiovi nental inve	sual material, etc. on estigations carried out	1 h.	3 h.	4 h.
-	W	MAKE-UP MECHANIS	MS		
EVALUATION SYSTEM	100%	Comments: Continuou tutor and the experts in t	<i>(No mech</i> s evaluation he project f	<i>anisms)</i> n. FEEDBACK ollow-up meeti	received from ngs
EVALUATION SYSTEM 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					



1.Deflection of beams

- 2.Bending -Continuation
- 3. Transformation of stresses and strains 4.Combined loading

5.Failure theories

LEARNING RESOURCES AND BIBLIOGRAPHY			
Learning resources	Bibliography		
Subject notes Moodle Platform	Introduction to Linear Elasticity, Phillip L. Gould, 3rd ed., 2013, ISBN: 978-1-4614-4833-4 (Online), Springer		
Lab practical training Slides of the subject	Strength and Stiffness of Engineering Systems, Frederick A. Leckie, Dominic J. Dal Bello, 2009, ISBN: 978-0-387-49474-6 (Online), Springer		
	Mechanics and Strength of Materials, VitorDias da Silva, 2006, ISBN: 978-3-540-30813-3 (Online), Springer		
	Mechanics of Materials, Roy R. Craig Jr., 3rdedition, 2011, ISBN 978-0-470-48181-3, John Wiley and Sons		