

m Mondragon Unibertsitatea Goi Eskola Politeknikoa Escuela Politécnica Superior

				0				
Studies DEGREE IN IND ENGINEERING	USTRIAL ORGANIZ	A FION	Subject	?				
Semester 2	Course 3	3	Mention / Field of					
Character COMPULSORY			specialisation					
Plan 2022	Modality F	ace-to-face	Language	EUSKARA/C	ASTELL	ANO		
Credits 6	Hours/week 4	1.67	Total hours	84 class hour hours	s + 66 r	non-clas	ss hours	= <u>150 tot</u>
	2	2030 AGENI	DA GOALS					
Na B ELECTINGUE AND B AGENT MARKED 12 SECONDEL MARKED SECONDE								
		PROFES	SSORS					
EGUREN EGUIGUREN, JOS	SE ALBERTO							
GORROÑO ALBIZU, LEIRE								
OTEGUI ALTOLAGUIRRE, J								
		ED PREVIC						
Subje					wledge			
(No specific previous			•	No previous kr	owledg	e requi	red)	
		LEARNING	RESULTS		1/2	011	40	
ARNING RESULTS DR301 - To identify improvements	in production proces	ses to reduce	their environmental i	mnact by	КС	SK x	AB	5,08
iciently using the resources of the RTR1 - To develop interdisciplinar	e productive environm	nent				-		0,00
coming aware of respect for hum pact of the proposed solutions on	the SDGs - to acquir	nental rights, ai ire and/or apply	nd analyzing and ass / basic_advanced an	sessing the				
h a high degree of autonomy RTR2 - To express information, id herent manner, orally and in writir	leas and the argumer ng, based on quality i	sciplinary team nts that suppor information, se	s and/or undertake fu t them in an orderly,	urther studies clear and		x		0,48
ant-garde, demonstrating the abil th a high degree of autonomy RTR2 - To express information, id herent manner, orally and in writir urces, using inclusive and non-dis	leas and the argumer ng, based on quality i scriminatory language	sciplinary team nts that suppor information, se	s and/or undertake fu t them in an orderly,	urther studies clear and		x	Total:	0,48 6
th a high degree of autonomy RTR2 - To express information, id herent manner, orally and in writir urces, using inclusive and non-dis	leas and the argumer ng, based on quality i scriminatory language	sciplinary team nts that suppor information, se	s and/or undertake fu t them in an orderly,	urther studies clear and		x	Total:	6
th a high degree of autonomy RTR2 - To express information, id herent manner, orally and in writir urces, using inclusive and non-dis <i>Knowledge or Content / SK: Skills / AB:</i> NAEE LEARNING RESULTS VAE02 - Knowledge and understa	leas and the argumer ng, based on quality i scriminatory language <i>Abilities</i>	sciplinary team nts that suppor information, se le	s and/or undertake fu t them in an orderly, lf-made or obtained t	urther studies clear and from different	f their b			
th a high degree of autonomy RTR2 - To express information, id herent manner, orally and in writin urces, using inclusive and non-dis <i>Knowledge or Content / SK: Skills / AB:</i> NAEE LEARNING RESULTS NAE02 - Knowledge and understangineering. NAE06 - Analysis in engineering: <i>A</i>	leas and the argumer ng, based on quality i scriminatory language <i>Abilities</i> nding: A systematic u	sciplinary team nts that suppor information, se le understanding	s and/or undertake fu t them in an orderly, If-made or obtained i of the key aspects an	urther studies clear and from different nd concepts of		ranch o		6 ECTS
th a high degree of autonomy RTR2 - To express information, id herent manner, orally and in writin urces, using inclusive and non-dis <i>Knowledge or Content / SK: Skills / AB:</i> NAEE LEARNING RESULTS NAE02 - Knowledge and understangineering.	leas and the argumer ng, based on quality i scriminatory language <i>Abilities</i> nding: A systematic t Ability to apply their k	sciplinary team nts that suppor information, se le understanding knowledge and	s and/or undertake fu t them in an orderly, If-made or obtained i of the key aspects an understanding in ana	urther studies clear and from different nd concepts of alysing produc	ct, proce	ranch o ess and		6 ECTS 2,4
th a high degree of autonomy RTR2 - To express information, id herent manner, orally and in writin urces, using inclusive and non-dis <i>Knowledge or Content / SK: Skills / AB:</i> NAEE LEARNING RESULTS NAE02 - Knowledge and understangineering. NAE06 - Analysis in engineering: <i>A</i> ethod engineering. NAE08 - Engineering projects: Abi	leas and the argumer ng, based on quality i scriminatory language <i>Abilities</i> nding: A systematic u Ability to apply their k	sciplinary team nts that suppor information, se e understanding knowledge and pwledge in the o	s and/or undertake fu t them in an orderly, If-made or obtained i of the key aspects an understanding in ana development and cor	urther studies clear and from different nd concepts of alysing produc	ct, proce	ranch o ess and		6 ECTS 2,4 0,6
th a high degree of autonomy RTR2 - To express information, id herent manner, orally and in writin urces, using inclusive and non-dis <i>Knowledge or Content / SK: Skills / AB:</i> NAEE LEARNING RESULTS NAE02 - Knowledge and understangineering. NAE06 - Analysis in engineering: <i>A</i> ethod engineering. NAE08 - Engineering projects: Abi pecific requirements. NAE09 - Engineering projects: Uno NAE09 - Engineering projects: Uno	leas and the argumer ng, based on quality is scriminatory language <i>Abilities</i> nding: A systematic to Ability to apply their k ility to apply their kno derstanding of the dif ngineering: Understan	sciplinary team nts that suppor information, se le understanding knowledge and owledge in the o fferent method	s and/or undertake fu t them in an orderly, of the key aspects an understanding in an development and cor s and ability to use th able methods and te	urther studies clear and from different nd concepts of alysing produc mpletion of pro	et, proce	ranch o ess and hich me	f eet	6 ECTS 2,4 0,6 0,36 0,36 1,2
th a high degree of autonomy RTR2 - To express information, id herent manner, orally and in writin urces, using inclusive and non-dis <i>Knowledge or Content / SK: Skills / AB:</i> NAEE LEARNING RESULTS NAE02 - Knowledge and understangineering. NAE06 - Analysis in engineering: A ethod engineering projects: Abi pecific requirements. NAE09 - Engineering projects: Uno NAE09 - Engineering projects: Uno NAE15 - Practical application of er NAE17 - Transversal competences	leas and the argumer ng, based on quality is scriminatory language <i>Abilities</i> nding: A systematic to Ability to apply their k ility to apply their kno derstanding of the dif ngineering: Understant s: To work effectively	sciplinary team nts that suppor information, se le understanding knowledge and owledge in the o fferent method: inding of applic /, both individua	s and/or undertake fu t them in an orderly, of the key aspects an understanding in an development and cor s and ability to use th able methods and te ally and in a team.	urther studies clear and from different nd concepts of alysing produc mpletion of pro- nem. chniques and	ct, proce vjects w their lim	ranch o ess and hich me	f eet s.	6 ECTS 2,4 0,6 0,36 0,36 1,2 0,36
th a high degree of autonomy RTR2 - To express information, id herent manner, orally and in writin urces, using inclusive and non-dis <i>Knowledge or Content / SK: Skills / AB:</i> NAEE LEARNING RESULTS NAE02 - Knowledge and understangineering. NAE06 - Analysis in engineering: A ethod engineering. NAE08 - Engineering projects: Abi pecific requirements. NAE09 - Engineering projects: Uno NAE15 - Practical application of er NAE17 - Transversal competences NAE18 - Transversal competences	leas and the argumer ng, based on quality is scriminatory language <i>Abilities</i> nding: A systematic u Ability to apply their k ility to apply their kno derstanding of the dif ngineering: Understan s: To work effectively	sciplinary team nts that suppor information, se le understanding knowledge and owledge in the o fferent method: inding of applic /, both individua	s and/or undertake fu t them in an orderly, of the key aspects an understanding in an development and cor s and ability to use th able methods and te ally and in a team.	urther studies clear and from different nd concepts of alysing produc mpletion of pro- nem. chniques and	ct, proce vjects w their lim	ranch o ess and hich me	f eet s.	6 ECTS 2,4 0,6 0,36 0,36 1,2
th a high degree of autonomy RTR2 - To express information, id herent manner, orally and in writin urces, using inclusive and non-dis <i>Knowledge or Content / SK: Skills / AB:</i> NAEE LEARNING RESULTS NAE02 - Knowledge and understangineering. NAE06 - Analysis in engineering: A ethod engineering projects: Abi pecific requirements. NAE09 - Engineering projects: Uno NAE09 - Engineering projects: Uno NAE15 - Practical application of er NAE17 - Transversal competences	leas and the argumer ng, based on quality is scriminatory language <i>Abilities</i> nding: A systematic unding: A systematic unding Ability to apply their known derstanding of the dif ngineering: Understand s: To work effectively s: To use different me s: Demonstrate that t	sciplinary team Ints that suppor information, se le understanding knowledge and pwledge in the of fferent method: inding of applic /, both individua ethods to comm they are aware	s and/or undertake fu t them in an orderly, of the key aspects an understanding in an development and cor s and ability to use th able methods and te ally and in a team. nunicate effectively v of the responsibility	urther studies clear and from different nd concepts of alysing produc mpletion of pro- nem. chniques and with the engine implied in the	t, proce jects witheir lim eering c practica	ranch o ess and hich me hitations ommun	f eet s.	6 ECTS 2,4 0,6 0,36 0,36 1,2 0,36
th a high degree of autonomy RTR2 - To express information, id herent manner, orally and in writin urces, using inclusive and non-dis <i>Knowledge or Content / SK: Skills / AB:</i> NAEE LEARNING RESULTS NAE02 - Knowledge and understangineering. NAE06 - Analysis in engineering: <i>A</i> ethod engineering. NAE08 - Engineering projects: Abi pecific requirements. NAE09 - Engineering projects: Uno NAE09 - Engineering projects: Uno NAE15 - Practical application of er NAE17 - Transversal competences a society in general. NAE19 - Transversal competences engineering, the social and envir	leas and the argumer ng, based on quality is scriminatory language <i>Abilities</i> nding: A systematic unding: A systematic unding Ability to apply their known derstanding of the dif ngineering: Understand s: To work effectively s: To use different me s: Demonstrate that t	sciplinary team Ints that suppor information, se le understanding knowledge and pwledge in the of fferent method: inding of applic /, both individua ethods to comm they are aware	s and/or undertake fu t them in an orderly, of the key aspects an understanding in an development and cor s and ability to use th able methods and te ally and in a team. nunicate effectively v of the responsibility	urther studies clear and from different nd concepts of alysing produc mpletion of pro- nem. chniques and with the engine implied in the	t, proce jects witheir lim eering c practica	ranch o ess and hich me hitations ommun al applic ty and	f eet s. hity eation	6 ECTS 2,4 0,6 0,36 1,2 0,36 0,36 0,36 0,36
th a high degree of autonomy RTR2 - To express information, id herent manner, orally and in writin urces, using inclusive and non-dis <i>Knowledge or Content / SK: Skills / AB:</i> NAEE LEARNING RESULTS NAE02 - Knowledge and understangineering. NAE06 - Analysis in engineering: <i>A</i> ethod engineering. NAE08 - Engineering projects: Abi pecific requirements. NAE09 - Engineering projects: Uno NAE09 - Engineering projects: Uno NAE15 - Practical application of er NAE17 - Transversal competences a society in general. NAE19 - Transversal competences engineering, the social and envir	leas and the argumer ng, based on quality is scriminatory language <i>Abilities</i> nding: A systematic of Ability to apply their k lity to apply their kno derstanding of the dif ngineering: Understan s: To work effectively s: To use different me s: Demonstrate that t ronmental impact, and ion of engineering.	sciplinary team: nts that suppor information, se le understanding knowledge and owledge in the of therent methods inding of applic r, both individua ethods to commit they are aware id show commit	s and/or undertake fu t them in an orderly, of the key aspects an understanding in an development and cor s and ability to use th able methods and te ally and in a team. municate effectively w of the responsibility tment with professior	urther studies clear and from different nd concepts of alysing produc mpletion of pro- nem. chniques and with the engine implied in the nal ethics, resp	t, proce jects witheir lim eering c practica	ranch o ess and hich me hitations ommun al applic ty and	f eet s.	6 ECTS 2,4 0,6 0,36 0,36 1,2 0,36 0,36
th a high degree of autonomy RTR2 - To express information, id herent manner, orally and in writin urces, using inclusive and non-dis <i>Knowledge or Content / SK: Skills / AB:</i> NAEE LEARNING RESULTS NAE02 - Knowledge and understangineering. NAE06 - Analysis in engineering: <i>A</i> ethod engineering. NAE08 - Engineering projects: Abi pecific requirements. NAE09 - Engineering projects: Uno NAE09 - Engineering projects: Uno NAE15 - Practical application of er NAE17 - Transversal competences a society in general. NAE19 - Transversal competences engineering, the social and envir	leas and the argumer ng, based on quality is scriminatory language <i>Abilities</i> nding: A systematic of Ability to apply their k lity to apply their kno derstanding of the dif ngineering: Understan s: To work effectively s: To use different me s: Demonstrate that t ronmental impact, and ion of engineering.	sciplinary team: nts that suppor information, se le understanding knowledge and owledge in the of therent methods inding of applic r, both individua ethods to commit they are aware id show commit	s and/or undertake fu t them in an orderly, of the key aspects an understanding in an development and cor s and ability to use th able methods and te ally and in a team. nunicate effectively v of the responsibility	urther studies clear and from different nd concepts of alysing produc mpletion of pro- nem. chniques and with the engine implied in the nal ethics, resp	t, proce jects witheir lim eering c practica	ranch o ess and hich me hitations ommun al applic ty and	f eet s. hity eation	6 ECTS 2,4 0,6 0,36 1,2 0,36 0,36 0,36 0,36
th a high degree of autonomy RTR2 - To express information, id herent manner, orally and in writin urces, using inclusive and non-dis <i>Knowledge or Content / SK: Skills / AB:</i> NAEE LEARNING RESULTS NAE02 - Knowledge and understangineering. NAE06 - Analysis in engineering: <i>A</i> ethod engineering. NAE08 - Engineering projects: Abi pecific requirements. NAE09 - Engineering projects: Uno NAE09 - Engineering projects: Uno NAE15 - Practical application of er NAE17 - Transversal competences a society in general. NAE19 - Transversal competences engineering, the social and envir	leas and the argumer ng, based on quality is scriminatory language <i>Abilities</i> nding: A systematic of Ability to apply their k lity to apply their kno derstanding of the dif ngineering: Understan s: To work effectively s: To use different me s: Demonstrate that t ronmental impact, and ion of engineering.	sciplinary team: nts that suppor information, se le understanding knowledge and owledge in the of therent methods inding of applic r, both individua ethods to commit they are aware id show commit	s and/or undertake fu t them in an orderly, of the key aspects an understanding in an development and cor s and ability to use th able methods and te ally and in a team. municate effectively w of the responsibility tment with professior	urther studies clear and from different nd concepts of alysing produc mpletion of pro- nem. chniques and with the engine implied in the nal ethics, resp	t, proce jects witheir lim eering c practica	ranch o ess and hich me hitations ommun al applic ty and	f eet s. hity eation	6 ECTS 2,4 0,6 0,36 1,2 0,36 0,36 0,36 0,36
th a high degree of autonomy RTR2 - To express information, id herent manner, orally and in writin urces, using inclusive and non-dis : <i>Knowledge or Content / SK: Skills / AB:</i> NAEE LEARNING RESULTS NAE02 - Knowledge and understangineering. NAE06 - Analysis in engineering: A ethod engineering projects: Abi pecific requirements. NAE09 - Engineering projects: Uno NAE15 - Practical application of er NAE15 - Transversal competences a society in general. NAE19 - Transversal competences engineering, the social and envir gulations of the practical application	leas and the argumer ng, based on quality is scriminatory language <i>Abilities</i> nding: A systematic of Ability to apply their k lity to apply their kno derstanding of the dif ngineering: Understan s: To work effectively s: To use different me s: Demonstrate that t ronmental impact, and ion of engineering.	sciplinary team: nts that suppor information, se le understanding knowledge and owledge in the of therent methods inding of applic r, both individua ethods to commit they are aware id show commit	s and/or undertake fu t them in an orderly, of the key aspects an understanding in an development and cor s and ability to use th able methods and te ally and in a team. municate effectively w of the responsibility tment with professior	urther studies clear and from different nd concepts of alysing produc mpletion of pro- nem. chniques and with the engine implied in the nal ethics, resp	et, proce ojects wi their lim eering c practica ponsibili	ranch o ess and hich me hitations ommun al applic ty and	f eet s. hity eation	6 ECTS 2,4 0,6 0,36 1,2 0,36 0,36 0,36 0,36





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	75%		(No mech	anisms)	
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	25%				
CH - Class hours: 2 h. NCH - Non-class hours: 2 h. TH - Total hours: 4 h.					
2RG0392 (2 sem)					
LEARNING ACTIVITIES			СН	NCH	тн
Development and writing of records, reports, presentation projects/work experience/challenges/case studies/experin individually and/or in teams			2 h.	1 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	75%		(No mech	anisms)	
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	25%				
CH - Class hours: 2 h. NCH - Non-class hours: 1 h. TH - Total hours: 3 h.					
2RG0393 (2 sem)					
LEARNING ACTIVITIES			СН	NCH	тн
Development and writing of records, reports, presentation projects/work experience/challenges/case studies/experin individually and/or in teams			4 h.	2 h.	6 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	75%		(No mech	anisms)	
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	25%				
CH - Class hours: 4 h. NCH - Non-class hours: 2 h. TH - Total hours: 6 h.					

RG0301 [!] Analiza, evalúa y propone mejoras en todo el ciclo de vida de un producto



Goi Eskola Politeknikoa | Mondragon Unibertsitatea

Course: 2024 / 2025 - Course planning



Development and writing of records, reports, presentations, audiovisual mate	СН	NCH	ТН
projects/work experience/challenges/case studies/experimental investigations individually and/or in teams		15 h.	25 h.
Presentation by the teacher in the classroom, in participatory classes, of con- procedures associated with the subjects	cepts and 10 h.	15 h.	25 h.
EVALUATION SYSTEM W MAKE	E-UP MECHANISMS		
computer practical work, simulation practical work, practic laboratory practical work, term projects, end of degree term p	ntation and defence of exerc cal work, simulation practical projects, end of degree proje- roblems	work, laborate	ory practical wo
	dual written and/or oral tests g/programming tests	or individual	

RGO302 [!] Identifica y describe cómo tratar los vertidos, residuos y emisiones generados por una empresa y propone buenas prácticas para reducir el impacto generado, cumpliendo la ley.

LEARNING ACTIVITIES			СН	NCH	ТН
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects			35 h.	18 h.	53 h.
Carrying out exercises and solving problems individually and/or in teams				9 h.	19 h.
Carrying out visits and/or learning trips to other university centres, laboratories, companies and/or thermal power plants					5 h.
EVALUATION SYSTEM	W	MAKE-UP MECHANIS	SMS		
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	buter practical work, simulation practical work, practical work, simulation practical work, simulation projects, end of degree term projects, end of		on practical	work, laborato	ory practical work,
Individual written and/or oral tests or individual coding/programming tests	50%	Individual written and/c coding/programming te		or individual	
CH - Class hours: 50 h. NCH - Non-class hours: 27 h. TH - Total hours: 77 h.					

2RGO390 (2 sem)

Development and writing of records, reports, presentation projects/work experience/challenges/case studies/experi individually and/or in teams		-	2 h.	2 h.	4 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	75%		(No mech	anisms)	
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	25%				





TH - Total hours: 4 h.

2RGO394 (2 sem)						
LEARNING ACTIVITIES			СН	NCH	тн	
Development and writing of records, reports, presentations, audiovisual material, etc. on 4 h. 2 h. 6 h. projects/work experience/challenges/case studies/experimental investigations carried out individually and/or in teams						
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	75%		(No mech	anisms)		
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	25%					
H - Class hours: 4 h. CH - Non-class hours: 2 h. H - Total hours: 6 h.						

CONTENTS

1.Basic environmental concepts2.Drinking water management and treatment3.Wastewater management and treatm ent4.Waste management5.Atmospheric pollution

LEARNING RESOURCES AND BIBLIOGRAPHY				
Learning resources	Bibliography			
[!] Apuntes de la asignatura [!] Plataforma Moodle [!] Transparencias de la asignatura [!] Proyección de videos	OSCAR, C., ALEXANDRA, M. & IVÁN, M. Alternativas para la gestión ambiental en el siglo XXI, enfoque: iniciativa de investigación en cero emisiones. Memorias del Primer Congreso Internacional Ambiental del Caribe-Concaribe, 2002. NIETO, J. & SANTAMARTA, J. 2007. Evolución de las emisiones de gases de efecto invernadero en España (1990-2006). CCOO, Madrid. RODRÍGUEZ, J. J. & IRABIEN, A. 1999. Los residuos peligrosos. Caracterización, tratamiento y gestión. Editorial Síntesis SA, Madrid (Spain), 211-226. http://campus.usal.es/~retribucionesysalud/ssalud/calid_amb/manual . h tm Manual Práctico de Tramitaciones Administrativas Ambientales para la Industria Vasca. Manual práctico de legislación industrial para la industria vasca 2007 KIELY, G. 1999. Ingeniería ambiental: fundamentos, entornos, tecnologías y sistemas de gestión, McGraw-Hill. IHOBE: SOCIEDAD PÚBLICA DE GESTIÓN AMBIENTAL: http://www.ihobe.net Ihobeline: 900.15.08.64. DEPARTAMENTO DE "MEDIO AMBIENTE Y ORDENACIÓN DEL TERRITORIO" DEL GOBIERNO VASCO: http://www.ingurumena.ejgv.euskadi.net/r49-387/es GOMELLA, C. & GUERRÉE, H. 1977. Tratamiento de aguas para abastecimiento público, Reverte. https://labur.eus/pZT6g			