[GOE301] INDUSTRIAL FLOW SYSTEMS

GENERAL INFORMATION

Studies	DEGREE IN INDUSTRIAL ORGANIZATION ENGINEERING	**Subject**	FLUIDS
Semester	2	**Course**	2
Character	COMPULSORY	**Mention / Field of specialisation**	
Plan	2022	**Modality**	Face-to-face
Credits	3	**Hours/week**	1.94
Language	EUSKARA/CASTELLANO		
Total hours	35 class hours + 40 non-class hours = **75 total hours**		

2030 AGENDA GOALS

PROFESSORS

BASAURI LARRAÑAGA, IBAI

DURAN GOICOECHEA, IARA

REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
(No specific previous subjects required)	*(No previous knowledge required)*

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
GOR209 - To describe the application of industrial fluidic systems		x		2,6
G-RTR1 - To develop interdisciplinary projects specific to their specialty and of gradual complexity, - becoming aware of respect for human rights and fundamental rights, and analyzing and assessing the impact of the proposed solutions on the SDGs - to acquire and/or apply basic, advanced and/or avant-garde, demonstrating the ability to work in multidisciplinary teams and/or undertake further studies with a high degree of autonomy		x		0,24
G-RTR2 - To express information, ideas and the arguments that support them in an orderly, clear and coherent manner, orally and in writing, based on quality information, self-made or obtained from different sources, using inclusive and non-discriminatory language		x		0,16
			Total:	3

KC: Knowledge or Content / SK: Skills / AB: Abilities

ENAEE LEARNING RESULTS	ECTS
ENAE02 - Knowledge and understanding: A systematic understanding of the key aspects and concepts of their branch of engineering.	1
ENAE04 - Knowledge and understanding: To be aware of the multidisciplinary context of engineering.	0,14
ENAE05 - Analysis in engineering: Ability to apply their knowledge and understanding in identifying, formulating and solving engineering problems using established methods.	0,14
ENAE06 - Analysis in engineering: Ability to apply their knowledge and understanding in analysing product, process and method engineering.	0,34
ENAE08 - Engineering projects: Ability to apply their knowledge in the development and completion of projects which meet specific requirements.	0,34
ENAE17 - Transversal competences: To work effectively, both individually and in a team.	0,34
ENAE18 - Transversal competences: To use different methods to communicate effectively with the engineering community and society in general.	0,34
ENAE19 - Transversal competences: Demonstrate that they are aware of the responsibility implied in the practical application of engineering, the social and environmental impact, and show commitment with professional ethics, responsibility and regulations of the practical application of engineering.	0,34
Total:	3

SECONDARY LEARNING RESULTS

2RGO290 **(2 sem)**

LEARNING ACTIVITIES	CH	NCH	TH
Development and writing of records, reports, presentations, audiovisual material, etc. on projects/work experience/challenges/case studies/experimental investigations carried out individually and/or in teams		2 h.	2 h.

EVALUATION SYSTEM	W	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	100%	Individual written and/or oral tests or individual coding/programming tests

CH - Class hours: 0 h.
NCH - Non-class hours: 2 h.
TH - Total hours: 2 h.

2RGO291 **(2 sem)**

LEARNING ACTIVITIES	CH	NCH	TH
Development and writing of records, reports, presentations, audiovisual material, etc. on projects/work experience/challenges/case studies/experimental investigations carried out individually and/or in teams		2 h.	2 h.

EVALUATION SYSTEM	W	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	100%	Individual written and/or oral tests or individual coding/programming tests

CH - Class hours: 0 h.
NCH - Non-class hours: 2 h.
TH - Total hours: 2 h.

RGO219 **[!]** ***Describe los componente y las funciones que cumplen en un sistema de potencia fluidica***

LEARNING ACTIVITIES	CH	NCH	TH
Development and writing of records, reports, presentations, audiovisual material, etc. on projects/work experience/challenges/case studies/experimental investigations carried out individually and/or in teams	5 h.	5 h.	10 h.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	3 h.	7 h.	10 h.
Carrying out exercises and solving problems individually and/or in teams	12 h.	8 h.	20 h.

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	10%	Individual written and/or oral tests or individual coding/programming tests
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	30%	
Individual written and/or oral tests or individual coding/programming tests	60%	

CH - Class hours: 20 h.
NCH - Non-class hours: 20 h.
TH - Total hours: 40 h.

RGO220 **[!]** ***Interpreta los circuitos y diagramas de un sistema de potencia fluídica***

LEARNING ACTIVITIES	CH	NCH	TH

Development and writing of records, reports, presentations, audiovisual material, etc. on projects/work experience/challenges/case studies/experimental investigations carried out individually and/or in teams	3 h.	3 h.	6 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	10 h.	6 h.	16 h.
Carrying out exercises and solving problems individually and/or in teams	2 h.	1 h.	3 h.

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	10%	Individual written and/or oral tests or individual coding/programming tests
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	30%	
Individual written and/or oral tests or individual coding/programming tests	60%	

CH - Class hours: 15 h.
NCH - Non-class hours: 10 h.
TH - Total hours: 25 h.

2RGO292 (2 sem)

LEARNING ACTIVITIES	CH	NCH	TH
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.	2 h.

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	100%	*(No mechanisms)*

CH - Class hours: 0 h.
NCH - Non-class hours: 2 h.
TH - Total hours: 2 h.

2RGO293 (2 sem)

LEARNING ACTIVITIES	CH	NCH	TH
Development and writing of records, reports, presentations, audiovisual material, etc. on projects/work experience/challenges/case studies/experimental investigations carried out individually and/or in teams		2 h.	2 h.

EVALUATION SYSTEM	W	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	100%	Individual written and/or oral tests or individual coding/programming tests

CH - Class hours: 0 h.
NCH - Non-class hours: 2 h.
TH - Total hours: 2 h.

2RGO294 (2 sem)

LEARNING ACTIVITIES	CH	NCH	TH
Development and writing of records, reports, presentations, audiovisual material, etc. on projects/work experience/challenges/case studies/experimental investigations carried out individually and/or in teams		2 h.	2 h.

EVALUATION SYSTEM	W
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%

MAKE-UP MECHANISMS

Individual written and/or oral tests or individual coding/programming tests

CH - Class hours: 0 h.
NCH - Non-class hours: 2 h.
TH - Total hours: 2 h.

CONTENTS

Introduction to automation PNEUMATICS1. Introduction2. Compressed air production and distribution.3. Adaptation to the workplace. FRL equipment.4. Pneumatic work elements5. Valves Distributor valves Block valves flow valves pressure valves6. Pneumatic circuits INDUSTRIAL HYDRAULICS1. Introduction2. Hydraulic fluids3. Filters4. Hydraulic pumps5. Working elements6. Valves Distributor valves flow valves Block valves pressure valves7. Hydraulic circuits

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources

[!] *Plataforma Moodle*
[!] *Transparencias de la asignatura*
[!] *Programas*

Bibliography

Hidraulika : Oinarrizko maila / D. Merkle, B. Schrader, M. Thomes, Esslingen (Alemania) : Festo Didactic K.G , cop. 1989 Fluidos, bombas e instalaciones hidráulicas, Salvador de las Heras, Barcelona : Iniciativa Digital Politècnica , 2011 Rabie, M., Fluid Power Engineering, MacGraw-Hill, 2009