[GOC301] CHEMISTRY

GENERAL INFORMATION

Studies	DEGREE IN INDUSTRIAL ORGANIZATION ENGINEERING	**Subject**	CHEMISTRY
Semester	2	**Course**	1
Character	BASIC TRAINING	**Mention / Field of specialisation**	
Plan	2022	**Modality**	Face-to-face
Credits	6	**Hours/week**	5.28
Language	CASTELLANO		
Total hours	95 class hours + 55 non-class hours = **150 total hours**		

2030 AGENDA GOALS

PROFESSORS

GARAY ARAICO, AINARA

BERNAL RODRIGUEZ, DANIEL

REQUIRED PREVIOUS KNOWLEDGE

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

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
G-RA08 - To understand and apply the principles of basic knowledge of general chemistry, organic and inorganic chemistry and their applications in engineering		x		5,4
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		0,36
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		0,24
			Total:	6

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

ENAEE LEARNING RESULTS	ECTS
ENAE01 - Knowledge and understanding: Knowledge and understanding of the underlying scientific and mathematical principles in their branch of engineering.	2,2
ENAE04 - Knowledge and understanding: To be aware of the multidisciplinary context of engineering.	0,24
ENAE05 - Analysis in engineering: Ability to apply their knowledge and understanding in identifying, formulating and solving engineering problems using established methods.	2,4
ENAE08 - Engineering projects: Ability to apply their knowledge in the development and completion of projects which meet specific requirements.	0,52
ENAE17 - Transversal competences: To work effectively, both individually and in a team.	0,32
ENAE18 - Transversal competences: To use different methods to communicate effectively with the engineering community and society in general.	0,32
Total:	6

SECONDARY LEARNING RESULTS

2RGO190 (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.	1 h.	3 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

(No mechanisms)

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

2RGO191 **(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.	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	100%	*(No mechanisms)*

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

2RGO192 **(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.	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	100%	*(No mechanisms)*

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

RGO116 **[!]** ***Identifica y desarrolla las reacciones químicas que ocurren en diferentes situaciones de servicio***

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	10 h.	9 h.	19 h.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	10 h.	6 h.	16 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	10 h.		10 h.
Carrying out exercises and solving problems individually and/or in teams	11 h.	10 h.	21 h.
Practical work in workshops and/or laboratories, individually and/or in teams	3 h.	1 h.	4 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	15%	Individual written and/or oral tests or individual coding/programming tests
Presentation and defence of exercises, case studies, computer practical work, simulation practical work,	20%	

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	65%

CH - Class hours: 44 h.
NCH - Non-class hours: 26 h.
TH - Total hours: 70 h.

2RGO194 **(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.	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	100%	*(No mechanisms)*

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

2RGO193 **(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.	1 h.	3 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%	*(No mechanisms)*

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

RGO115 **[!]** ***Conoce las características de los materiales que tienen una situación física diferente partiendo de las características atómicas***

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	4 h.	4 h.	8 h.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	6 h.	10 h.	16 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	6 h.		6 h.
Carrying out exercises and solving problems individually and/or in teams	14 h.	7 h.	21 h.

Practical work in workshops and/or laboratories, individually and/or in teams	3 h.	1 h.	4 h.
Tutoring sessions and monitoring of training activities	8 h.	2 h.	10 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	15%	Individual written and/or oral tests or individual coding/programming tests
Individual written and/or oral tests or individual coding/programming tests	85%	

CH - Class hours: 41 h.
NCH - Non-class hours: 24 h.
TH - Total hours: 65 h.

CONTENTS

1. Atomic model and periodic characteristics2. Basic concepts of chemical bonds3. States of matter: solids, liquids and gases.4. Basic concepts of chemical reactions5. Acid-base reactions6. Thermochemistry7. Electrochemistry

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources

[!] *Consultas en páginas web relacionadas con el tema*
[!] *Plataforma Moodle*
[!] *Presentaciones en clase*
[!] *Realización de prácticas en laboratorio*
[!] *Proyección de videos*
[!] *Transparencias de la asignatura*

Bibliography

Química la ciencia central, 11a edición. Theodore L. Brown, H. Eugene LeMay, Bruce E. Bursten, Catherine J. Murphy. Editorial Pearson (2009)

Química general, 10a edición. Ralph H. Petrucci, F Geoffrey Herring, Jeffry D. Madura, Carey Bissonnette. Editorial Pearson (2011)

Jeffry D. Madura, Carey Bissonnette. Editorial Pearson (2011) Kimikaren Oinarriak, Teresa Arbeola Lopez (2010)

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