



IDENTIFYING DATA

Chemistry: Chemistry

Subject	Chemistry: Chemistry			
Code	P03G370V01204			
Study programme	(*)Grao en Enxeñaría Forestal			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	9	Basic education	1st	2nd
Teaching language				
Department				
Coordinator	Cancela Carral, María Ángeles			
Lecturers	Cancela Carral, María Ángeles			
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General description	(*)Esta materia pretende repasar e homoxenizar os conceptos básicos de química con fin de que sirvan de base para outras materias.			

Competencies

Code	
B3	CG-03: Capacidade para comprender os seguintes fundamentos necesarios para o desenvolvemento da actividade profesional: Químicos.
C7	(*)CE-07: Coñecementos básicos da química xeral, química orgánica e inorgánica e as súas aplicacións na enxeñaría.
D4	(*)CBI 4: Coñecementos básicos de informática.
D6	(*)CBI 6: Adquirir capacidade de resolución de problemas.
D7	(*)CBI 7: Adquirir capacidade na toma de decisións.
D8	(*)CBP 1: Capacidades de traballo en equipo, con carácter multidisciplinar e en contextos tanto nacionais como internacionais.
D9	(*)CBP 2: Habilidades nas relacións interpersoais.
D11	(*)CBP 4: Habilidades de razoamento crítico.
D13	(*)CBS 1: Aprendizaxe autónoma.
D16	(*)CBS 4: Liderado.
D20	(*)CBS 8: Sensibilidade cara a temas ambientais.

Learning outcomes

Expected results from this subject	Training and Learning Results		
	B3	C7	D4 D6 D7 D8 D9 D11 D13 D16 D20

The relation between competitions and results, and the weight of each competition inside the matter show in the pdf attach.

http://forestales.uvigo.es/sites/default/files/07%20*Quimica.Pdf#*overlay-*context=is/*content/competitions-and-resulted-of-learning-by-matter

Contents

Topic	
1. Fundamental concepts.	Atoms. Periodic table. Molecules. Mixes. Units of concentration. Chemical reactions and stoichiometry.
2.- Atomic structure and chemical link.	Quantum mechanical description. Periodic properties. Covalent link. Geometry and hybridisation. Polarity. Ionic link and metallic Link. Intermolecular strengths

3. Gases, solids and liquids. Ideal gas, real gas. Liquid state and solid state.

4. Thermodynamics and Thermochemical	Energy. Enthalpy. Calorimetry. Free energy and spontaneity.
5.- Chemical balances	Balance Gaseous chemical, acid- Base, solubility, balance redox.
6.- Kinetical chemical	Speed of reaction and kinetical equation
7.- Basic concepts of organic chemistry.	Functional groups, isomerism. Reactions and intervals. Mechanisms of reaction
8.- Basic principles of inorganic chemistry	Metallurgy and chemistry of metals
9.- Chemical industrial.	Ways of operation. Processes and basic operations. Diagrams of flow.
10.- Exploitation Of the biomass. Biorefinery	Bioenergy utilization: biopetroleum, biogas, biodiesel and bioethanol Use alimentary: vitamins, mineral and feed. Harnessing Like biomaterials: bioplastics and biopolymers

Planning

	Class hours	Hours outside the classroom	Total hours
Laboratory practises	14	22	36
Group tutoring	2	4	6
Presentations / exhibitions	1	5	6
Troubleshooting and / or exercises	16	54	70
Master Session	45	62	107

*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

	Description
Laboratory practises	Sessions of laboratory of two hours in groups of two students, of where will explain the appearances applied of the part of the theoretical contents. Each *prácticatiene incorporated a series of questions that have to be delivered before the realisation of the following practical. The competitions worked *aqui are: To60; *B1-*B12; To1; To4; To53; *B7; *B11; *B9; *B12; *B14; *B15; *B16; *B18; *B19; *B20
Group tutoring	*Tutorías Of compulsory assistance, in where the students explain the work realised on a number reduced of exercises proposed previously. The competitions worked *aqui are: To60; To4; *B1; *B12;
Presentations / exhibitions	Each student will have to realise an oral presentation and written of any of the practices realised in the laboratory. The competitions worked here are: To60; *B1; To4; *B3; *B5; *B7; *B12; *B16; *B18; *B19;
Troubleshooting and / or exercises	They will explain and/they will resolve it problems in groups reduced of students from a series of billed facilitated by the professor. The students will have to resolve a small number of exercises for each one of the subjects, that will have to deliver in the term indicated for *sua qualification. The competitions worked *aqui are: To60; *B1-*B12; To4; *B1; *B6; *B7; *B9; *B13
Master Session	Classes in the classroom to numerous groups, in where they explain the corresponding contents to each subject. The competitions worked *aqui are: To60;To1; To4; To53; *B20

Personalized attention

Methodologies	Description
Laboratory practises	They realise you practise them *basandose in the *metodologia of learning by projects.
Group tutoring	They resolve doubts of problems and exercises
Presentations / exhibitions	They present the projects of practices
Troubleshooting and / or exercises	They do seminars in class and deliver exercises to resolve home

Assessment

Description	Qualification	Training and Learning Results
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Laboratory practises	(*)Evaluarase o traballo contínuo durante o curso (actitud, implicación e traballo en grupo) Evaluarase a calidade da memoria presentada de forma oral e escrita.	30	B3	C7	D4 D6 D7 D8 D9 D11 D13 D16 D20
Troubleshooting and / or exercises	(*)Evaluarase a resolución dos exercicios entregados durante o curso.	20	B3	C7	D6 D11 D13
Master Session	(*)Realizarase un examen final de toda a materia, baseado en preguntas tipo test e exercicios numéricos. Así mesmo poderanse realizar exames de control o longo de todo o curso.	50	B3	C7	D6 D20

Other comments on the Evaluation

Approve the matter involves necessarily approve each one of the activities that the they constitute, so that *non can approve activities independently. Once approved all, the final note will be the sum of each one of the parts.

Sources of information

Basic Bibliography

BROWN, T.L. y otros, **Química: la Ciencia Central**, 7ª, Prentice-Hall, 1998

CHANG, RAYMOND, **Química**, 6ª, McGraw-Hill, 1995

PETRUCCI, HARWOOD, **Química General**, 8ª, Prentice Hall, 2003

Willis, C.J., **Resolucion de problemas de química general**, Reverté, 1980

Complementary Bibliography

KOTZ, JOHN C.y otros, **Química y Reactividad Química**, International Thomson,

Recommendations

Subjects that are recommended to be taken simultaneously

Mathematics: Overview of mathematics/P03G370V01203

Mathematics: Mathematics and IT/P03G370V01103

Other comments

*Consideranse Necessary previous requirements the following:

- Know the system of units.
- Know realise basic mathematical calculations.
- Know basic concepts of the type: atoms, element, composed, mix, density, composition *porcentual and inorganic basic formulation.

To surpass the *asignatura is necessary to achieve the less 50% of the qualification of each one of the sections *evaluables. The assistance the face-to-face educational activities are compulsory. Absences in the justified, upper 20% of the hours scheduled, suppose a suspense in each one of the sections and in consequence in the matter.