



IDENTIFYING DATA

Degree thesis

Subject	Degree thesis			
Code	V11G200V01991			
Study programme	(*)Grao en Química			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	18	Mandatory	4th	2nd
Teaching language				
Department				
Coordinator	Pérez Juste, Ignacio			
Lecturers	Pérez Juste, Ignacio			
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Web	http://quimica.uvigo.es/decanatoquimica/traballo-fin-de-grao.html			
General description	<p>According to the memory of the Degree in Chemistry of the University of Vigo, the End of Degree project is a mandatory subject of 18 credits ECTS in the second term of the fourth course.</p> <p>The objective of the subject is to offer the students the opportunity to apply the knowledges, skills and competences adquired during the Degree studies.</p> <p>The TFG is an original work that each student will do individually under the supervision of one or two tutors. TFG subjects can correspond to experimental and/or theoretical works and/or of bibliographic reviews on subjects related with the contains in the Degree in Chemistry. The final stage of the TFG will consist in a written report and its public presentation.</p>			

Competencies

Code	
A1	Students have demonstrated knowledge and understanding in a field of study that builds upon their general secondary education, and is typically at a level that, whilst supported by advanced textbooks, includes some aspects that will be informed by knowledge of the forefront of their field of study
A2	Students can apply their knowledge and understanding in a manner that indicates a professional approach to their work or vocation, and have competences typically demonstrated through devising and sustaining arguments and solving problems within their field of study
A3	Students have the ability to gather and interpret relevant data (usually within their field of study) to inform judgments that include reflection on relevant social, scientific or ethical issues
A4	Students can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences
A5	Students have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy
C1	Demonstrate knowledge and understanding of essential facts, concepts, principles and theories: Major aspects of chemical terminology, nomenclature, units and unit conversions.
C2	Demonstrate knowledge and understanding of essential facts, concepts, principles and theories: types of chemical reactions and its main characteristics
C3	Demonstrate knowledge and understanding of essential facts, concepts, principles and theories in: principles of quantum mechanics and its application in the description of the structure and properties of atoms and molecules
C4	Demonstrate knowledge and understanding of essential facts, concepts, principles and theories: Basics and tools for solving analytical problems and characterization of chemical substances
C5	Demonstrate knowledge and understanding of essential facts, concepts, principles and theories: Characteristics of the different states of matter and the theories used to describe them
C6	Demonstrate knowledge and understanding of essential facts, concepts, principles and theories in: principles of thermodynamics and their applications in chemistry
C7	Demonstrate knowledge and understanding of essential facts, concepts, principles and theories: kinetics of change, including catalysis and reaction mechanisms
C8	Demonstrate knowledge and understanding of essential facts, concepts, principles and theories: main techniques for structural determination, including spectroscopy
C9	Demonstrate knowledge and understanding of essential facts, concepts, principles and theories: characteristic properties of the elements and their compounds, including group relationships and variations in the periodic table

- C10 Demonstrate knowledge and understanding of essential facts, concepts, principles and theories: properties of aliphatic, aromatic, heterocyclic and organometallic compounds
- C11 Demonstrate knowledge and understanding of essential facts, concepts, principles and theories: nature and behavior of functional groups in organic molecules
- C12 Demonstrate knowledge and understanding of essential facts, concepts, principles and theories: structural features of chemical elements and their compounds, including stereochemistry
- C13 Demonstrate knowledge and understanding of essential facts, concepts, principles and theories: main synthetic routes in organic chemistry, including interconversions of functional groups and the formation of carbon-carbon and carbon-heteroatom bonds
- C14 Demonstrate knowledge and understanding of essential facts, concepts, principles and theories: relationship between macroscopic properties and properties of individual atoms and molecules, including macromolecules
- C15 Demonstrate knowledge and understanding of essential facts, concepts, principles and theories in: chemistry of biological molecules and their processes
- C16 Demonstrate knowledge and understanding of essential facts, concepts, principles and theories: principles and procedures in chemical engineering
- C17 Demonstrate knowledge and understanding of essential facts, concepts, principles and theories in: metrology of chemical processes including quality management
- C18 Demonstrate knowledge and understanding of essential facts, concepts, principles and theories: principles of electrochemistry
- C19 Apply knowledge and understanding to solve basic problems of quantitative and qualitative nature
- C20 Evaluate, interpret and synthesize data and chemical information
- C21 Recognize and implement good scientific practices for measurement and experimentation
- C22 Process and perform computational calculations with chemical information and chemical data
- C23 Present oral and written scientific material and scientific arguments to a specialized audience
- C24 Recognize and analyze new problems and plan strategies to solve them
- C25 Handle chemicals safely, considering their physical and chemical properties, including the evaluation of any specific risks associated with its use
- C26 Perform common laboratory procedures and use instrumentation in synthetic and analytical work
- C27 Monitor, by observation and measurement of physical and chemical properties, events or changes, and document and record them in a consistent and reliable way
- C28 Interpret data derived from laboratory observations and measurements in terms of their significance and relate them to the appropriate theory
- C29 Demonstrate skills for numerical calculations and interpretation of experimental data, with special emphasis on precision and accuracy
- D1 Communicate orally and in writing in at least one of the official languages of the University
- D2 Communicate at a basic level in English in the field of chemistry
- D3 Learn independently
- D4 Search and manage information from different sources
- D5 Use information and communication technologies and manage basic computer tools
- D6 Use mathematics, including error analysis, estimates of orders of magnitude, correct use of units and data representations
- D7 Apply theoretical knowledge in practice
- D8 Teamwork
- D9 Work independently
- D10 Work at a national and international context
- D11 Adapt to new situations
- D12 Plan and manage time properly
- D13 Make decisions
- D14 Analyze and synthesize information and draw conclusions
- D15 Evaluate critically and constructively the environment and oneself
- D16 Develop an ethical commitment
- D17 Develop concern for environmental aspects and quality management
- D18 Generate new ideas and show initiative

Learning outcomes

Expected results from this subject

Training and Learning Results

(*)Todos os da titulación

A1	C1	D1
A2	C2	D2
A3	C3	D3
A4	C4	D4
A5	C5	D5
	C6	D6
	C7	D7
	C8	D8
	C9	D9
	C10	D10
	C11	D11
	C12	D12
	C13	D13
	C14	D14
	C15	D15
	C16	D16
	C17	D17
	C18	D18
	C19	
	C20	
	C21	
	C22	
	C23	
	C24	
	C25	
	C26	
	C27	
	C28	
	C29	

Contents

Topic

(*)Dado o seu carácter especial, a materia non ten contidos propios.

Planning

	Class hours	Hours outside the classroom	Total hours
Projects	160	256	416
Jobs and projects	0.5	33.5	34

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

Methodologies

	Description
Projects	Individual work done by the students under the supervision of one or two tutors. The assignment of the subject will be done following the TFG norms approved by the Faculty of Chemistry.

Personalized attention

Methodologies	Description
Projects	

Assessment

Description	Qualification Training and Learning Results
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Projects	Evaluation by the tutor of the competences achieved during the realization of the work assigned, in accordance with the criteria established and published previously.	30	A1	C1	D1
			A2	C2	D2
			A3	C3	D3
			A4	C4	D4
			A5	C5	D5
				C6	D6
				C7	D7
				C8	D8
				C9	D9
				C10	D10
				C11	D11
				C12	D12
				C13	D13
				C14	D14
				C15	D15
				C16	D16
				C17	D17
				C18	D18
				C19	
				C20	
				C21	
				C22	
				C23	
				C24	
				C25	
				C26	
				C27	
				C28	
				C29	
Jobs and projects	Evaluation by a jury in public session, in accordance with criteria established and published previously.	70	A1	C1	D1
			A2	C2	D2
			A3	C3	D3
			A4	C4	D4
			A5	C5	D5
				C6	D6
				C7	D7
				C8	D8
				C9	D9
				C10	D10
				C11	D11
				C12	D12
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				C22	
				C23	
				C24	
				C25	
				C26	
				C27	
				C28	
				C29	

Other comments on the Evaluation

TFG is ruled by the norms approved in the Junta de Facultad and published in the web page web of the faculty.
The TFG Commission will do public, with sufficient advance, the criteria of evaluation that will use the tutor and the jury.
The TFG Commission will do public, with sufficient advance, the conditions for the written report and the public defences.
All the information generated by the TFG Commission will be included in the platform Tem@ and/or in the web page of the faculty.

Sources of information

Recommendations

Subjects that are recommended to be taken simultaneously

Environmental chemistry/V11G200V01902

Pharmaceutical chemistry/V11G200V01903

Industrial chemistry/V11G200V01904
