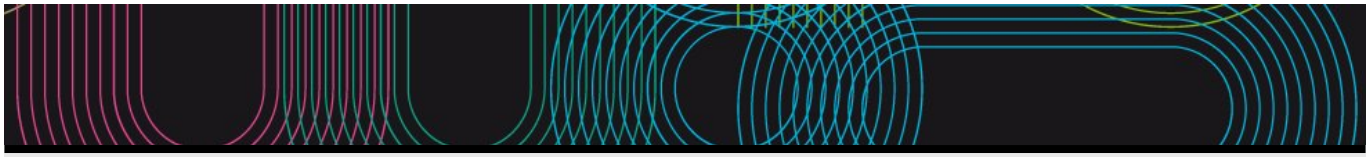

IDENTIFYING DATA				
IT tools and communication in chemistry				
Subject	IT tools and communication in chemistry			
Code	V11G200V01401			
Study programme	(*)Grao en Química			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Mandatory	2nd	2nd
Teaching language	English			
Department				
Coordinator	Correa Duarte, Miguel Ángel			
Lecturers	Correa Duarte, Miguel Ángel Pérez Juste, Jorge Silva López, Carlos			
E-mail	macorrea@uvigo.es			
Web				
General description	The course aims to familiarize students with the use of chemical information sources (scientifical and technical in general) with emphasis on its use through the Internet, as well as with the use of all types of software tools for statistical calculations and chemical modeling . Attention is also paid to the acquisition of important communication skills (writing scientific and technical documents, academic, web design, etc).			

Competencies	
Code	
C20	Evaluate, interpret and synthesize data and chemical information
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
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
D8	Teamwork
D9	Work independently
D10	Work at a national and international context
D14	Analyze and synthesize information and draw conclusions
D15	Evaluate critically and constructively the environment and oneself
D16	Develop an ethical commitment
D18	Generate new ideas and show initiative

Learning outcomes		
Expected results from this subject	Training and Learning Results	
(*)Distinguish and handle the distinct sources of scientific and technical information (books, magazines, summaries, databases, pages web, patents, etc.).	C23	D1 D2 D4 D5 D9 D14 D16

(*) Differentiate and classify the scientific magazines and the contributions to the same, respect to their thematic, aim and scope.		D2 D4 D5 D8 D9 D14
(*) Find and absorb information in a fast and effective way.	C23	D1 D2 D3 D5 D8 D9 D10 D15 D18
(*) Resume and classifiy the information for its effective broadcasting.	C23	D1 D2 D5 D8 D10 D16
(*) Argue the own opinions showing critical sense.	C23	D1 D2 D5 D8 D10 D16
(*) Performd simple written documents for the diffusion of knowledges and the scientific and technical results (p.ej. Articles, reports, works).	C23	D1 D2 D5 D8 D10 D16
(*) Handle with critical spirit the network (""""internet"""") as an information source.	C22	D3 D5 D9 D14 D16
(*) Perform academic oral presentations on subjects related with the Chemistry, using audiovisual media.	C23	D1 D2 D14 D18
(*) Organise the bibliography, with or without help of bibliographic tools.	C20	D3 D4 D5 D9 D14 D15
(*) Use computer programs for the preparation of figures and charts.	C22	D4 D5 D9
(*) Comprehend the basic principles and utility of simulation programs of chemical processes.	C22	D5 D9 D14
(*) Comprehend and explain texts in English related with Chemistry.	C23	D1 D2 D3 D8
(*) Draft simple documents and perform short oral presentations in English, on subjects related with Chemistry.	C23	D1 D2 D3 D8 D14
(*) Identify the most important programs of molecular modelling and understand the usefulnes of the results obtained.	C20	D3 D4 D14

Contents

Topic	
The scietific literature: general aspects.	Structure and classification of the literature. General rules of a literature search. Function, organization and use of a scientific library.
Information Sources	Books. Journals. Technical reports. Conference Proceedings. Patents. Thesis. Government Publications. Standards. Videos. Dictionaries. Directories Encyclopedias Databases
Using Internet	Basic Internet services. Remote connection and file transfer utilities. Search engines. Electronic lists and subscription services. Other services. Structure, function and design of web pages.
Indexing and abstracting services	Identification of a scientific paper. The ISI Web of Knowledge (WOK). The Chemical Abstract Service (CAS) and the Scifinder. Other abstracting services. Handbooks.
Bibliographic Managers	Classification of bibliographic references: general principles. Use of popular software packages: Refworks and Endnote as examples.
Preparation of a scientific, technical or academic document	Parts of a scientific document. References, tables and figures : general principles. Use of computer templates. General aspects of the scientific style and the use of English. How to write: CVs, progress reports, grant requests and other academic documents.

Planning			
	Class hours	Hours outside the classroom	Total hours
Master Session	14	28	42
Practice in computer rooms	26	52	78
Troubleshooting and / or exercises	2	22	24
Long answer tests and development	1.5	4.5	6
*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.			

Methodologies	
	Description
Master Session	The theoretical aspects of the subject are presented

Practice in computer rooms	Computer lab exercises: literature searches, use of bibliographic managers, use of statistical packages, report writing.
Troubleshooting and / or exercises	Report or article writing in English language. Simple exercises with modelling software

Personalized attention

Methodologies	Description
Practice in computer rooms	
Troubleshooting and / or exercises	

Assessment

	Description	Qualification	Training and Learning Results	
Practice in computer rooms	Typically, literature searches	20	C22 C23	D1 D2 D3 D4 D5 D9 D15 D16
Troubleshooting and / or exercises	Tipically, database searches and use of utilities of modelling software.	40	C22 C23	D1 D2 D3 D4 D5 D8 D10 D14 D15 D18
Long answer tests and development	Written exam consisting of short questions.	40		D1 D2 D14 D15

Other comments on the Evaluation

Attendance at practical lectures (seminars) is compulsory. The student will be given a rating (0-10) as long as he/she has attended 3 or more seminar sessions, has delivered at least two reports on the exercises or practices proposed by the teacher or has done a written exam.

If the student fails in the first call he/she will be asked to improve some of the exercises or perform new ones provided by the teacher. In addition he/she will have to undergo a more thorough exam, which will weight 50% of the final grade.

Sources of information

Basic Bibliography

Complementary Bibliography

Douville, J.A., **The literature of chemistry**, 1st,
Kaplan, S.M., **The English-Spanish Spanish-English dictionary of chemistry**, 2ª,
Day, R.A.; Gastel, B., **How to write and publish a scientific paper**, 7ª,

Recommendations

Subjects that are recommended to be taken simultaneously

Numerical methods in chemistry/V11G200V01402
Physical chemistry II/V11G200V01403
Inorganic chemistry I/V11G200V01404

Subjects that it is recommended to have taken before

Physics: Physics I/V11G200V01102
Physics: Physics II/V11G200V01201
Chemistry: Chemistry I/V11G200V01105
Chemistry: Chemistry 2/V11G200V01204