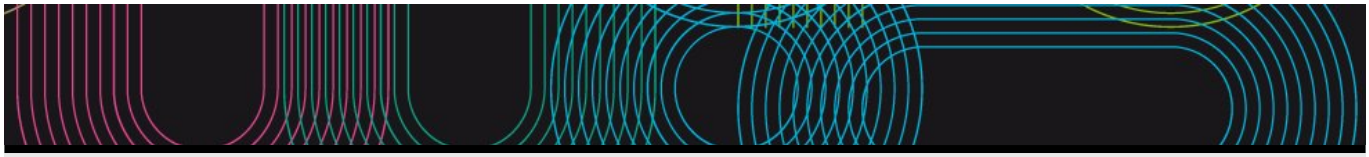

IDENTIFYING DATA				
Computer and communications tools for chemistry				
Subject	Computer and communications tools for chemistry			
Code	V11G200V01401			
Study programme	(*)Grao en Química			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Mandatory	2nd	2nd
Teaching language	English			
Department				
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	
A22	(*)Procesar datos e realizar cálculo computacional relativo a información e datos químicos
A23	(*)Presentar material e argumentos científicos de xeito oral e escrita a unha audiencia especializada
B1	(*)Comunicarse de forma oral e escrita en polo menos unha das linguas oficiais da Universidade
B2	(*)Comunicarse a nivel básico en inglés no ámbito da Química
B3	(*)Aprender de forma autónoma
B4	(*)Procurar e administrar información procedente de distintas fontes
B5	(*)Utilizar as tecnoloxías da información e das comunicacións e manexar ferramentas informáticas básicas
B6	(*)Manexar as matemáticas, incluíndo aspectos tales como análise de erros, estimacións de ordes de magnitude, uso correcto de unidades e modos de presentación de datos
B7	(*)Aplicar os coñecementos teóricos á práctica
B8	(*)Traballar en equipo
B9	(*)Traballar de forma autónoma
B10	(*) Traballar nun contexto tanto nacional como internacional
B14	(*) Analizar e sintetizar información e obter conclusións
B15	(*)Avaliar de modo crítico e construtivo o entorno e a si mesmo
B16	(*)Desenvolver un compromiso ético
B18	(*)Xerar novas ideas e demostrar iniciativa

Learning aims		
Expected results from this subject	Training and Learning Results	
To know the different sources of scientific and technical information	A23	B1 B2 B4 B5 B9 B14 B16

To understand the basics of running a Science library and know how to perform an advanced use of its services		B2 B4 B5 B8 B9 B14
To classify scientific journals based on their theme or objective	A23	B1 B2 B3 B5 B8 B9 B10 B15 B18
To know the basic characteristics of other sources: technical reports, conference proceedings, patents, dissertations, government publications, standards, videos, dictionaries, encyclopedias, directories, databases and """"handbooks"""".	A23	B1 B2 B5 B8 B10 B16
To know the basic characteristics of other sources: technical reports, conference proceedings, patents, dissertations, government publications, standards, videos, dictionaries, encyclopedias, directories, databases and """"handbooks"""".	A23	B1 B2 B5 B8 B10 B16
To know the structure and function of an abstracting or indexing service	A23	B1 B2 B5 B8 B10 B16
To know how to use statistical program packages to perform data fitting, graphical and other kinds of statistical analysis	A22	B3 B5 B6 B7 B9 B14 B16

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	The student is helped by providing adequate guidelines. Since all lectures are given in the computer room, the student will be helped mostly there in a practical and effective way.
Troubleshooting and / or exercises	The student is helped by providing adequate guidelines. Since all lectures are given in the computer room, the student will be helped mostly there in a practical and effective way.

Assessment		
	Description	Qualification
Practice in computer rooms	Typically, literature searches	20

Troubleshooting and / or exercises	Tipically, database searches and use of utilities of modelling software.	40
Long answer tests and development	Written exam consisting of short questions.	40

Other comments on the Evaluation

<p msonormal="">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.</p><p msonormal="">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.
</p>

Sources of information

Douville, J.A., **The literature of chemistry**, 1st,

Kaplan, S.M., **The English-Spanish Spanish-English dictionary of chemistry**, 1st,

Maizell, R.E., **How to find chemical information: a guide for practising chemists, educators and students**, 3d,

Day, R.A.; Gastel, B., **How to write and publish a scientific paper**, 6th,

Recommendations

Subjects that are recommended to be taken simultaneously

Numerical methods in chemistry/V11G200V01402
Physical chemistry 2/V11G200V01403
Inorganic chemistry 1/V11G200V01404

Subjects that it is recommended to have taken before

Physics: Physics 1/V11G200V01102
Physics: Physics 2/V11G200V01201
Chemistry: Chemistry 1/V11G200V01105
Chemistry: Chemistry 2/V11G200V01204