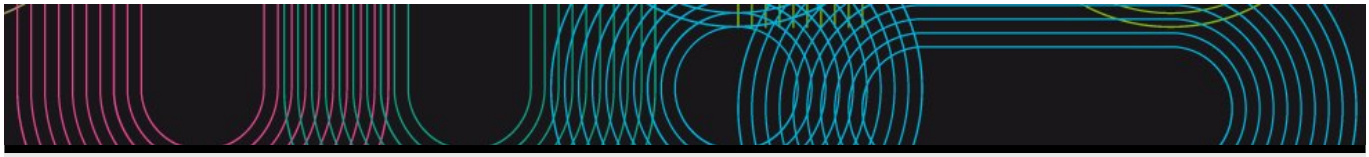

IDENTIFYING DATA				
Project				
Subject	Project			
Code	V11G200V01701			
Study programme	(*)Grao en Química			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Mandatory	4th	1st
Teaching language	Spanish			
Department				
Coordinator	González de Prado, Begoña			
Lecturers	González de Prado, Begoña Rincón Fontán, Mirian Rodríguez López, Lorena Yañez Diaz, Maria Remedios			
E-mail	bgp@uvigo.es			
Web				
General description	"Machine translation into english of the original teaching guide" The main aim of this subject is to give the students the methodology, direction, management and organisation of projects in the field of the Chemistry. With the knowledge in Chemistry, Chemical Engineering and other affine matters, the student has to be able to develop a Project in Chemistry. At the end of the course the student has to be able to draft, schedule, execute and direct industrial projects in the field of the Chemistry			

Competencies	
Code	
C19	Apply knowledge and understanding to solve basic problems of quantitative and qualitative nature
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
C24	Recognize and analyze new problems and plan strategies to solve them
D1	Communicate orally and in writing in at least one of the official languages of the University
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
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

Evaluate the feasibility of the realisation of a project related with the competitions of a chemist	C20 C23 C24	D1 D4 D5 D7 D8 D9 D12 D13 D14 D15 D16
*Recopilar And analyse the necessary information for the realisation of the project in Chemistry, including normative appearances and of market	C20 C22 C23 C24	D4 D5 D8 D9 D12 D13 D14 D15 D16
Organise and manage the diverse stages of realisation of a project in Chemistry	C20 C23 C24	D3 D5 D7 D8 D9 D12 D13 D14 D15 D16 D17 D18
Define the suitable scope of a project, taking into account technical appearances, economic, geographic and environmental	C19 C20 C22 C23 C24	D1 D3 D4 D6 D7 D8 D9 D13 D14 D17 D18
Realise the calculations associated to the development of a project	C19 C20 C22	D3 D7 D8 D9 D12 D14
Estimate the costs and potential profitability of a project	C19 C20 C22	D3 D6 D7 D9 D14 D15
Analyse the environmental implications of a project, and propose preventive measures and of improvement if it was necessary	C19 C20 C22 C24	D1 D7 D8 D9 D12 D14 D16 D17

Evaluate the potential impact (environmental, socioeconomic) of a project	C19 C20 C23 C24	D1 D3 D4 D5 D7 D8 D9 D12 D13 D15 D16 D17 D18
Elaborate technical reports very structured and drafted and present the same using the audiovisual means more suitable	C20 C23 C24	D1 D3 D4 D5 D7 D8 D9 D12 D13 D14 D18

Contents	
Topic	
Subject 1. The projects in chemistry	Professional competitions of the chemists. Definition and aims of a Project. *Caracteristicas. Stages and classification of a Project. Organisation. Norms, regulations and legislation
Subject 2. Design of a project	*Analisis Preliminary of feasibility and alternative Study of market Size of the project Location Approach of a project
Subject 3. Engineering of the project	Development of a project, stages, calculations, diagrams of flow and balances. Teams
Subject 4. Economic evaluation of a project	Investment. Costs of production and management Profitabilities Analysis of risk
Subject 5. Environmental evaluation of a project	Preventive Measured pollution and/or of correction Waste Cycle of Life
Subject 6. Documentation of a project	Memory Methods Norms

Planning			
	Class hours	Hours outside the classroom	Total hours
Master Session	13	22	35
Seminars	22	58	80
Troubleshooting and / or exercises	2	7	9
Presentations / exhibitions	2	5	7
Multiple choice tests	0	4	4
Long answer tests and development	3	8	11
Jobs and projects	0	4	4
*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 sessions *magistrales are theoretical classes to all the group in 13 weeks and of an hour of length (13 *x 1 *h/*sem). They will consist in the exhibition by part of the professor of the most fundamental appearances of each subject, taking like base the available documentation in the platform FEAR. The students will have to work, before each session, the material that provides him the professor related with the content that will treat in each subject.
Seminars	They will give to groups reduced, in 13 weeks (13 *x 2 *h/*sem). The students, with the support of the professor, will realise concrete projects (total or partial) of industrial installations, applying the knowledges purchased in the career. They will use computer programs of simulation to build and design the projects realised. It will realise in the classroom of computing.
Troubleshooting and / or exercises	In each subject, that was necessary, will put to disposal of the students a bulletin of problems. Some of these problems will resolve in class and others will have to be resolved by the students of individual form and deliver them so that they are corrected by the professor.
Presentations / exhibitions	The students of individual form or in group, will have to realise a short exhibition on the results obtained, a discussion of the results together with the conclusions of the project developed along the course

Personalized attention

Methodologies	Description
Master Session	It will give them to know to the students, to principle of course, the schedules of *tutorías in which they will resolve the doubts that exist regarding the theory, problems and works.
Troubleshooting and / or exercises	It will give them to know to the students, to principle of course, the schedules of *tutorías in which they will resolve the doubts that exist regarding the theory, problems and works.
Seminars	It will give them to know to the students, to principle of course, the schedules of *tutorías in which they will resolve the doubts that exist regarding the theory, problems and works.
Presentations / exhibitions	It will give them to know to the students, to principle of course, the schedules of *tutorías in which they will resolve the doubts that exist regarding the theory, problems and works.
Tests	**Description**
Multiple choice tests	It will give them to know to the students, to principle of course, the schedules of *tutorías in which they will resolve the doubts that exist regarding the theory, problems and works.
Long answer tests and development	It will give them to know to the students, to principle of course, the schedules of *tutorías in which they will resolve the doubts that exist regarding the theory, problems and works.
Jobs and projects	It will give them to know to the students, to principle of course, the schedules of *tutorías in which they will resolve the doubts that exist regarding the theory, problems and works.

Assessment

	Description	Qualification	Training and Learning Results	
Troubleshooting and / or exercises	The students will have to deliver, in the terms indicated, the problems proposed	5	C19 C20 C22 C24	D3 D4 D6 D7 D8 D9 D12 D14 D15 D18
Presentations / exhibitions	The students will realise an exhibition of the project realised	10	C23	D1 D3 D5 D8 D9 D12 D14
Multiple choice tests	They will realise two test type test along the course. One when finalising the two first subjects and the another when finalising the subject 3. The length of the same will be between 20 minutes and 1 hour	10	C19	D3 D7 D9 D12 D14

Long answer tests and development	It will realise a long proof of all the matter of the *asignatura	35	C19	D3 D7 D9 D12 D14
Jobs and projects	The students will realise and will deliver in the dates indicated, all the parts of the project that proposes him to principle of course	40	C20 C22 C24	D1 D3 D4 D5 D6 D7 D8 D9 D12 D13 D14 D15 D16 D17 D18

Other comments on the Evaluation

FIRST ANNOUNCEMENT&*nbsp;To
surpass the *asignatura is compulsory to obtain, like minimum 50% of
the qualification assigned to the total realisation of the project (project, seminars and
presentation/exhibition), being necessary, besides reach like minimum a 3
on 10 points in the final proof to take into account the other elements of
evaluation.CONDITION
OF PRESENTED: The participation of the student in any one of the proofs
written, the delivery of some work, or the assistance to two or&*nbsp; more sessions of seminar &*nbsp;it will involve the condition of presented and therefore
the allocation of a qualification&*nbsp;SECOND ANNOUNCEMENTIn this
announcement the students will have to present to those parts of the *asignatura that have not been surpassed previously.Ethical commitmentit expects that the present student a suitable ethical behaviour. In case to detect a no ethical behaviour (copy, plagiarism, utilisation of unauthorised electronic devices, for example), will consider that the student does not gather the necessary requirements to surpass the matter.

Sources of information

Basic Bibliography

J. Frank Valle-Riestra, **Project evaluation in the chemical process industries**, McGraw-Hill, 1983

Manuel de Cos Castillo, **Teoría General del Proyecto**, Editorial Síntesis, 1997

H.F. Rase y M.H. Barrow, **Ingeniería de proyectos para plantas de procesos**, CECSA, 1977

Complementary Bibliography

Luis Cabra, Antonio de Lucas, Fernando Ruiz y María Jesús Ramos, **Metodologías del diseño aplicado y gestíon de proyectos para ingenierios químicos**, Ediciones de la Universidad de Castilla-La Mancha., 2010

Arturo Jimenez Gutiérrez, **Diseño de procesos en ingeniería química.**, Editorial Reverté, 2003

Nassir Sapag Chain, Reinaldo Sapag Chain., **Preparación y evaluación de proyectos.**, Mc-Graw-Hill., 2000

J.M. Smith, H.C. Van Ness, M.M. Abbott., **Introducción a la termodinámica en Ingeniería Química.**, Mc Graw-Hill., 2007

A. Vian., **El pronóstico económico en química industrial.**, Alhambra., 1975

Eliseo Gómez, Domingo Gómez, Pablo Aragonés, Miguel Angel Sanchez, Domingo López., **Cuadernos de Ingeniería de Proyectos I.**, Universidad Politécnica de Valencia., 1997

Recommendations

Subjects that continue the syllabus

Industrial chemistry/V11G200V01904

Subjects that it is recommended to have taken before

Chemical engineering/V11G200V01502