



## IDENTIFYING DATA

### Projects

Subject	Projects			
Code	V09G311V01412			
Study programme	Grado en Ingeniería de los Recursos Mineros y Energéticos			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Mandatory	4th	2nd
Teaching language	#EnglishFriendly Spanish Galician English			
Department				
Coordinator	Goicoechea Castaño, María Iciar			
Lecturers	Goicoechea Castaño, María Iciar			
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Web	<a href="http://moovi.uvigo.gal">http://moovi.uvigo.gal</a>			
General description	English Friendly subject: International students may request from the teachers: a) resources and bibliographic references in English, b) tutoring sessions in English, c) exams and assessments in English			

## Training and Learning Results

Code	
A1	That the students demonstrate to possess and understand knowledge in an area of study that is part of the general education (second level), and often found at a level that, although based on advanced textbooks, also includes some aspects that involve knowledge from the avant-garde of the field of study
A2	That the students know how to apply their knowledge to their work or vocation in a professional way and that they possess the competences that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study
A3	That the students have the capability to gather and interpret relevant data (usually within their area of study) to issue judgments that include a reflection on relevant social, scientific or ethical issues
A4	That the students can transmit information, ideas, problems and solutions to a specialized and non-specialized audience
A5	That the students develop those learning capabilities necessary to undertake further studies with a high degree of autonomy.
B1	Scientific and technical training and qualification as a Mining Engineer and knowledge of the functions of consultancy, analysis, design, calculus, project, construction, maintenance, preservation and exploitation.
B2	To be familiar with the multiple technical and legal factors involved in the process of development, within the field of mining engineering, with the knowledge acquired in accordance with section 5 of order CIN/306/2009, pertaining to geological and mining prospecting and investigation, the explorations of all sorts of geological resources, including groundwater, underground construction, underground storage, treatment and benefit plants, energy plants, mineral processing and steel and iron plants, building materials plants, carbon chemistry, petrochemistry and gas plants, waste treatment and tributary plants, explosives factories, and ability to use well-tested methods and accredited technologies, with the aim of achieving the highest efficiency and ensuring the protection of the Environment and the safety and health of workers and users.
B3	Ability to design, write and plan partial or specific projects within the units specified in the previous section, such as mechanical and electric plants and their maintenance, networks of energy transportation, facilities for transportation and storage of solid, liquid and gaseous materials, waste sites, tailing dams, foundation and support, demolition, restoration, controlled explosions and explosives logistics.
B4	Ability to design, plan, run, inspect, sign and manage projects, plants or facilities, within their field.
B6	Ability to maintain, preserve and exploit projects, plants and facilities, within their field.
B8	To be familiar with and ability to apply the relevant legal framework to practice professionally as a Mining Engineer.
C21	Knowledge of methodology, management and organization of projects.

- D2 Ability to develop a project to completion in any field of this branch of engineering, combining appropriately the knowledge acquired, consulting the relevant sources of information, carrying out any required inquiries, and joining interdisciplinary work teams.
- D3 To suggest and develop practical solutions, using the relevant theoretical knowledge, to phenomena and problems-situations of ordinary reality that are specific to engineering, developing appropriate strategies.
- D4 To foster collaborative working, communication, organization and planning skills, along with the ability to take responsibilities in a multilingual, multidisciplinary work environment that promotes education for equality, peace and respect for fundamental rights.
- D5 To be familiar with the relevant sources of information, including constant updating, in order to practice one's profession competently, accessing all the present and future tools of information search, constantly adapting to technological and social changes.
- D6 To be familiar with and to be able to use the legislation applicable in this sector, to be acquainted with the social and business environments and to be able to deal with the relevant administration, integrating this knowledge into the drawing up of engineering projects and into the implementation of every aspect of their professional work.
- D7 Ability to organize, understand, assimilate, produce and handle all the relevant information to develop their professional work, using appropriate computing, mathematical, physics tools, etc. when these are required.

### Expected results from this subject

Expected results from this subject	Training and Learning Results			
Comprise the basic appearances of the realisation of projects by part of the engineer, his professional competitions, duties and responsibilities	A2	B1 B8	C21	D2 D3
Know the technological base on which support the technical solutions to apply in each Project		B4 B6	C21	D3 D5
Know the applicable legislation in the editorial and processing of Projects, as well as the diverse administrative procedures of permission	A1	B3 B4 B6		D5
Know the particular protocol of realisation of a Mining Project, an Industrial Project, an Energetic Project, and a Project of Infrastructures, in the fields competences of the degree	A4 A5	B1 B2 B3 B8		D2 D6
Know the new computer technicians for the editorial and execution of Projects		B2 B4		D7
Purchase consciousness on the environmental conditionings and of security and health in the editorial and execution of Projects	A3		C21	D6
Purchase a solid knowledge of how make correct and real budgets, and his importance like tool of management of the Project			C21	D2 D4

### Contents

Topic	
1. Introduction and presentation	1.1 Presentation of the course 1.2 Educational Guide
2. The engineer as an author, executor, or supervisor of a project.	2.1 Competitions, responsibilities, insurances and fees
3. Basic documents that conform a project	3.1 Memory, planes, fold of conditions, budget. 3.2 applicable Legislation for the editorial and execution of a mining project, of infrastructures, industrial, or energetic.
4. Methodology of realisation of a mining project, of infrastructures, industrial, or energetic.	4.1 The memory: antecedents, technical description of the project, calculations, and annexes. 4.2 The planes: situation, urbanism planning, design, constructive details, 4.3 Environmental Conditionings, security and health. Topography and draftsmanship. 4.4 I Specifications: legal importance and content according to the type of project. 4.5 Budget: measurements, unitary prices, prices decomposed of unit of work, budget vy items, budget of material execution, budget of execution by hires.
5. Administrative processing of the projects	5.1 sectorial Legislation, urbanistic and environmental. Substantive organ, environmental organ. 5.2 municipal Licence: licence of work and licence of activity. Visas
6. Execution of the projects.	6.1 Direction facultative, direction of work 6.2 Methodologies for managing projects

### Planning

	Class hours	Hours outside the classroom	Total hours

Lecturing	34	0	34
Practices through ICT	10	10	20
Project based learning	0	30	30
Mentored work	6	17.5	23.5
Report of practices, practicum and external practices	0	10	10
Objective questions exam	2	20	22
Presentation	0.5	10	10.5

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

### Methodologies

Methodologies	Description
Lecturing	Exhibition by the teacher of the contents of the matter. Guidelines of the work to make during the course: exercises or project to make by the students
Practices through ICT	Realisation of practices of projects with the software that finds installed in the computer classrooms of the centre. They will give the guidelines for the preparation of the deliverables or reports of practices.
Project based learning	Realisation of a collaborative project . The number of members in each group will be decided at the beginning of the course in function of the number of students.
Mentored work	Mentoring classes for the tracking of the Project

### Personalized assistance

Methodologies	Description
Practices through ICT	Personalised attention to the students in the computer practices
Project based learning	Realisation of follow-up in group of the advance of the project in the cases that proceed

### Assessment

	Description	Qualification	Training and Learning Results
Report of practices, practicum and external practices	<p>Deliverables (Report of practices) to make in the course along the matter like result of the works made in class.</p> <p>Expected results from this subject:            Comprise the basic appearances of the realisation of projects by part of the engineer, his professional competitions, duties and responsibilities.            Know the applicable legislation in the editorial and processing of Projects, as well as the diverse administrative procedures of permission            Know the particular protocol of realisation of a Mining Project, an Industrial Project, an Energetic Project, and a Project of Infrastructures, in the fields competences of the degree            Know the new computer technicians for the editorial and execution of Projects            Purchase consciousness on the environmental conditionings and of security and health in the editorial and execution of Projects            Purchase a solid knowledge of how make correct and real budgets, and his importance like tool of management of the Project</p>	40	A2 B2 D2 A3 B3 A5 B4
Objective questions exam	<p>Examination type test and/or of short answer.</p> <p>Expected results from this subject:            Comprise the basic appearances of the realisation of projects by part of the engineer, his professional competitions, duties and responsibilities.            Know the technological base on which support the technical solutions to apply in each Project            Know the applicable legislation in the editorial and processing of Projects, as well as the diverse administrative procedures of permission            Know the particular protocol of realisation of a Mining Project, an Industrial Project, an Energetic Project, and a Project of Infrastructures, in the fields competences of the degree            Purchase consciousness on the environmental conditionings and of security and health in the editorial and execution of Projects            Purchase a solid knowledge of how make correct and real budgets, and his importance like tool of management of the Project</p>	40	A1 A2

Presentation	Oral presentation of the works in group. It values so much the content like the exhibition.	20	A4	B4	D2
	Expected results from this subject: Know the particular protocol of realisation of a Mining Project, an Industrial Project, an Energetic Project, and a Project of Infrastructures, in the fields competences of the degree Know the new computer technicians for the editorial and execution of Projects Purchase consciousness on the environmental conditionings and of security and health in the editorial and execution of Projects Purchase a solid knowledge of how make correct and real budgets, and his importance like tool of management of the Project				

### Other comments on the Evaluation

Students, to be able to pass the subject both in **first and second chance**, can opt for continuous evaluation or global evaluation. Once one month has passed since the start of classes, students can communicate in writing to the teaching staff their resignation from the continuous evaluation and opt for the global evaluation.

The qualification of the **continuous evaluation** will be the following:

- The practice reports (deliverables) made during the course will have a maximum score of 4 points on the final grade.
- The written test of final evaluation will have a maximum value of 4 points on the final grade
- The presentation of the project in a group, in which both the oral presentation and the content are valued, will have a maximum value of 2 points on the final grade.

In order to pass by continuous evaluation, each of the parts must be approved with a minimum of 3.5 points out of 10. The final grade will be the sum of the marks achieved in each of the parts with their corresponding percentage applied.

Students who opt for the **global evaluation** will be presented to the final evaluation test on the corresponding official date set by the direction of the center. This date will be published at the beginning of the course, both on the official website of the center and on the Moovi platform for monitoring the subject.

Exam Timetable: Exam dates and rooms must be verified in the official webpage of the school:

<http://minaseenerxia.uvigo.es/es/docencia/examenes>

### Sources of information

#### Basic Bibliography

Project management Institute (PMI), **A guide to the Project management Body of Knowledge (PMBok Guide). Edición inglés**, 978-1628256642, 7th edition, PMI, 2021

Project management Institute (PMI), **Guía de Conocimiento de la Gestión de Proyectos. Edición castellano**, 978-1628256796, 7ª edición, PMI, 2021

Lewis Cindy, **Microsoft project 2019 step by step**, 978-1509307425, 1ª edition, Hoboken, NJ : Pearson Education, 2019

#### Complementary Bibliography

Osterwalder, Alexander, **Business model generatio: a handbook for visioanries, game changers, and challengers**, 978-0470876411, 1ª edition, Wiley, coop, 2010

Ray R. Venkataraman, Jeffrey K. Pinto, **Cost and Value Management in Projects**, 978-1394207190, 1ª edicion, Wiley, coop, 2023

Itziar Goicoechea, **proyectos de edificaciones y construcciones industriales**, 978-8484085270, 1º edicion, Andavira, 2009

AENOR, **UNE 157001:2014. Criterios generales para la elaboración formal de los documentos que constituyen un proyecto técnico**, UNE 157001:2014, 1ª EDICION, AENOR, 2014

Ministerio transporte, movilidad y agenda urbana, **Código técnico de la edificación. Parte 1**, Modificaciones conforme al RD 450/2022, de 14 de junio (BOE 15/06/2022), 1º edicion, BOE, 2022

Ministerio españa, **disposiciones mínimas de seguridad y de salud en las obras de construcción**, Real Decreto 1627/1997, ULTIMA MODIFICACION, BOE, 2010

### Recommendations

#### Subjects that continue the syllabus

Works, Surveys and Construction Processes/V09G291V01412

#### Subjects that are recommended to be taken simultaneously

Environmental technology/V09G291V01207  
Works, Surveys and Construction Processes/V09G291V01412

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**Subjects that it is recommended to have taken before**

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Graphic expression: Graphic expression/V09G291V01101  
Environmental technology/V09G291V01207  
Energy Efficiency: Sustainability and Certification/V09G291V01413  
Works, Surveys and Construction Processes/V09G291V01412

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**Other comments**

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All communication and documentation will be available through the Moovi platform.

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