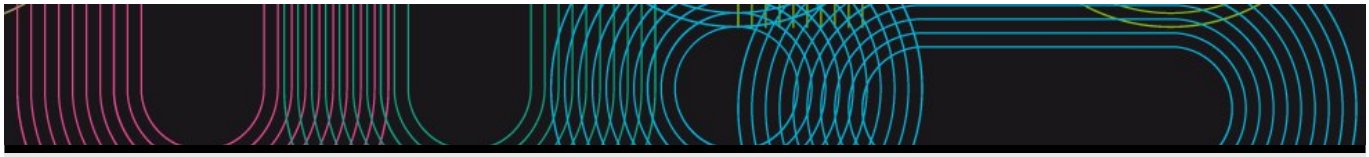

IDENTIFYING DATA				
Projects				
Subject	Projects			
Code	V09G310V01802			
Study programme	Grado en Ingeniería de los Recursos Mineros y Energéticos			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Mandatory	4th	2nd
Teaching language	Spanish English			
Department				
Coordinator	Goicoechea Castaño, María Iciar			
Lecturers	Goicoechea Castaño, María Iciar			
E-mail	igoicoechea@uvigo.es			
Web	http://moovi.uvigo.gal/			
General description	The aim that pursues with this subject is to orient students in the acquisition of the knowledge and the skills that capacity them for the handle and application of methodologies, technical and tools oriented to the preparation, organisation and management of projects and other own technical documents of the degree, with the purpose that it exercise with an approach that is similar to the reality of his future professional activity. To attain it will employ a wide approach of the subjects of the matter, looking for the integration of the knowledges purchased along the career and his application by means of a methodology, organisation and management of distinct modalities of technical works, as true essence of the profession of engineer, in the frame of his attributions and fields of activity. Likewise, it will promote the development of the competitions of the subject by means of a methodology of learning based in projects so that the exposed contents in theoretical classes implement in the development of the practical activities, oriented to the technical reality of the profession, assimilating the agile and precise employment of the distinct rule of application and of the professional best practices established, supporting in methodologies to document, elaborate, manage and present the technical documentation that correspond.			

Training and Learning Results	
Code	
B1	Scientific and technical training in order to work professionally as a Technical Mining Engineer, with knowledge of the functions of consultancy, analysis, design, calculation, planning, construction, maintenance, conservation and exploitation.
B2	Understanding of the many technical and legal considerations that arise during development within the field of mining engineering, according to section 5 of Order CIN7306/2009, which have to do with geological-mineral prospecting and research, mine exploitation of all types of geological resources, including groundwaters, underground works, underground stores, treatment and smelting plants, energy plants, mineral and iron and steel plants, construction materials plants, carbon-chemical, petro-chemical and gas plants, waste and effluent treatment plants, and explosives manufacturing plants. In addition, the capacity to employ proven methods and accredited technologies in order to attain improved efficiency while respecting the Environment and protecting the health and safety of workers and users.
B3	Capacity to design, write and plan partial or specific projects for the units described in the previous section, such as mechanical and electrical installations, together with their maintenance, energy transport networks, transport and storage facilities for solid, liquid and gaseous materials, dumping sites, pools or dams, supports and foundations, demolition, restoration, blasting and explosives logistics.
B4	Capacity to design, plan, operate, inspect, sign and manage projects, plants or installations within the field.
B5	Capacity to carry out land planning studies and environmental studies related to the projects, plants and installations within the field.
B6	Capacity to maintain, conserve and exploit the projects, plants and installations within the field.

B7	Knowledge required to undertake, within the scope of mining engineering knowledge as established in section 5 of Order CIN/306/2009, measurements, layouts, plans and maps, calculations, valuations, risk analyses, expert inspections, studies and reports, work plans, environmental and social impact studies, restorations plans, quality control systems, prevention systems, evaluation analyses of the properties of metal, ceramic, refractory, synthetic and other materials, soil and solid rock characterization and other similar tasks.
B8	Knowledge, understanding and capacity to apply the legislation needed when working professionally as a Technical Mining Engineer.
C21	Understanding of projects methodology, management and organization.
D2	Capacity to develop a complete project in any field included in this type of engineering, suitably combining acquired knowledge, accessing necessary information sources, undertaking the necessary enquiries and integrating into inter-disciplinary work teams.
D3	Propose and develop practical solutions, which develop suitable strategies based on theoretical knowledge, for problem phenomena and situations that arise as everyday realities in engineering.
D4	Encourage work based on cooperation, communication skills, organization, planning and recognition of responsibility in a multilingual and multidisciplinary working environment that fosters education in equality, peace and respect for fundamental rights.
D5	Know what sources are available for ongoing and continual updating of all the information required to undertake their work, with access to all the current and future tools for seeking information and adapting it in the light of technological and social changes.
D6	Know and handle legislation applicable to the sector, know the social and business environment and know how to work together with the Administration and use acquired knowledge to draw up engineering projects and develop any of the aspects of professional work required.
D7	Capacity to organise, interpret, assimilate, create and manage all the information needed to organise their work, handling the I.T., mathematical, physical and other tools required.

Expected results from this subject

Expected results from this subject	Training and Learning Results		
To understand the basic aspects for undertaking Projects as an Engineer: professional competences, duties and responsibilities.	B1 B2 B7 B8		D2 D4 D5 D6
To know about the technological basis supporting the technical solutions applied in each Project.	B4 B5 B6		D3 D5 D6
To know the applicable legislation when drawing up and proceeding with Projects, and the distinct administrative procedures for authorisation	B2 B8	C21	D2 D5 D6 D7
To know the particular protocol for undertaking a Mining Project, an Industrial Project, an Energy Project, and an Infrastructure Project, within the scope of the qualification's competences	B3 B4 B5 B6	C21	D2 D4
To know the latest I.T. techniques for drawing up and carrying out Projects.	B3 B4 B5	C21	D2 D3 D5 D6 D7
To become aware of the conditioning environmental, health and safety factors when drawing up and carrying out Projects	B1 B2 B3 B5 B7		D2 D5 D6 D7
To acquire a solid knowledge of how to draw up real, correct budgets, and their importance as a Project management tool.		C21	D2 D3

Contents

Topic	
1. Introduction and presentation of the subject	1.1. Presentation. 1.2. Syllabus
2. Project	2.1 Definition. Types of Projects 2.2 Content 2.3 Standards 2.4 Portfolio, program, project, operation
3. Project Management	3.1 Definition 3.2 Agile Methodologies 3.3 Predictive Methodologies

4. Project Management. PMBOK	4.1 Definition 4.2 Cycle of life of the project 4-3 Areas of Knowledge 4.4 Processes 4.5 Matrix of processes of the PMBOK
5. Project Management. Stage Beginning of the Project	5.1 Business Model Canvas (BMCanvas) 5.2 Project Model Canvas (PMCanvas) 5.3 Selection of Projects 5.4 Project Charter
6. Project Management. Stage Planning of the project. Scope, time and cost Management	6.1 Creation of the WBS: Work breakdown structure 6.2 Milestones 6.3 Deliverables 6.4 Planning. Method of the critical path 6.5 Resources 6.6 Costs 6.7 Base Line of the project
7. Project Management. Stage Tracking and control of the project	7.1 Follow-up of the Project. Tracking Gantt 7.2 Status date 7.3 Rescheduling 7.4 Method of Earned value
8. Project Management Stage End of the Project	8.1 Deliverable 8.2 Lessons learned
9. HR Management of the Project	9.1 Planning of HR 9.2 Execution of HR 9.2.1 Acquisition of the team 9.2.2 Development of the team 9.2.3 Manage the team
10. Quality Management of the Project	10.1 Quality plan 10.2 Quality assurance 10.3 Quality Control
11. Risk Management of the Project	11.1 Planning 11.1.1 Planning Risks 11.1.2 Identification risk 11.1.3 Qualitative analysis of risks 11.1.4 Quantitative analysis of risks 11.1.5 Answer plan 11.2 Tracking and control 11.2.1 Risks´s control

Planning

	Class hours	Hours outside the classroom	Total hours
Lecturing	28	56	84
Mentored work	14	28	42
Practices through ICT	6	12	18
Seminars	2	0	2
Essay	0.5	1.5	2
Problem and/or exercise solving	2	0	2

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

Methodologies

	Description
Lecturing	Presentation by the teacher of the contents on the subject under study, theoretical and / or guidelines for a job, exercise or project to be developed by the student.
Mentored work	Students develop exercises or classroom projects under the guidance and supervision of the teacher. May link autonomous development of student activities
Practices through ICT	Activities application of knowledge to specific situations, and the acquisition of basic skills and procedural matters related to the object of study, which are held in computer rooms.
Seminars	Interviews held with the student teachers of the subject for advice / development activities of the course and the learning process.

Personalized assistance

Methodologies	Description

Lecturing	The tutorial sessions will be individual. They will clear the doubts of the student and will help her with the contents of the course. Can realise tutorial sessions in small group gathering to students with the same problem for a better efficiency. For all the teaching modalities considered in the Contingency Plan, the tutorial sessions can be carried out using IT tools (email, video-call, Moovi forums, etc.) according to the modality of prior concertation of the virtual place, date and time.
Mentored work	They will do tutorial sessions of group with the professor to clear doubts and for the follow-up of the work. The tutorial sessions can be carried out using IT tools (email, video-call, Moovi forums, etc.) according to the modality of prior concertation of the virtual place, date and time.
Seminars	Personalised interview with the students. The tutorial sessions can be carried out using IT tools (email, video-call, Moovi forums, etc.) according to the modality of prior concertation of the virtual place, date and time.

Assessment

	Description	Qualification	Training and Learning Results	
Essay	The student, in group, will realise a project according to the contents of the matter. For this will ask them a series of deliverables during the course and will realise an oral presentation of the Project at the end of the matter. The number of students that constitute the group fixed to the beginning of the course with the professor. Results of learning: Understand the basic aspects for undertaking Projects as an Engineer: professional competences, duties and responsibilities. Know about the technological basis supporting the technical solutions applied in each Project. Know the applicable legislation when drawing up and proceeding with Projects, and the distinct administrative procedures for authorisation. Know the particular protocol for undertaking a Mining Project, an Industrial Project, an Energy Project, and an Infrastructure Project, within the scope of the qualification's competences. Know the latest I.T. techniques for drawing up and carrying out Projects. Become aware of the conditioning environmental, health and safety factors when drawing up and carrying out Projects. Acquire a solid knowledge of how to draw up real, correct budgets, and their importance as a Project management tool.	50	C21	D2 D3 D4 D5 D6 D7
Problem and/or exercise solving	Examination of the theoretical part of the matter. Results of learning: Understand the basic aspects for undertaking Projects as an Engineer: professional competences, duties and responsibilities. Know the applicable legislation when drawing up and proceeding with Projects, and the distinct administrative procedures for authorisation. Know the particular protocol for undertaking a Mining Project, an Industrial Project, an Energy Project, and an Infrastructure Project, within the scope of the qualification's competences.	50	C21	D2 D4 D5 D6

Other comments on the Evaluation

The evaluation of the work of the student, individual and/or in group, of face-to-face form and no face-to-face will realise by means of the assessment of the professor averaging the different activities realised.

To follow the subject the students can opt by the modality of Continuous Evaluation or the one of Evaluation no Continuous. In both cases, to obtain the qualification will employ a system of numerical assessment with values of 0,0 to 10,0 points according to the valid legislation (R.D. 1125/2003 of 5 September, BOE. Number 224 of 18 September). The subject will be passed when the qualification of the student was over 5,0.

For the First Announcement or Edition (ordinary 1º period)

To) Modality of Continuous Evaluation:

The final note of the subject will combine the qualifications of the project realised in group and his oral exhibition (50%), as well as the proof written (50%).

They will value the behaviour and the implication of the student in the classes and in the realisation of the diverse activities programmed, the fulfillment of the terms of delivery and/or exhibition and defence of the works proposed, etc.

In case that a student do not reach the minimum of 5 points on 10 demanded in any of the sections, will have to realise a final examination in the date fixed by the Direction of the centre.

To be able to access to the continuous evaluation, the student has to can assist to 75% of the total of the classes, and to

have delivered in due time and manner all the deliverables requested during the course.

b) Modality of Evaluation no Continuous:

It establishes a term from the start of the course so that the student justifies with a document his impossibility to follow the process of continuous evaluation.

The student that renounce to the continuous evaluation will have to realise a final examination that will cover the whole of the contents of the subject, so many theorists like practical, and that it will be able to include test type test, questions of reasoning, resolution of problems and development of practical suppositions. The qualification of the examination will be 100% of the final note.

It demands reach a minimum qualification of 5,0 points on 10,0 possible to be able to pass the subject

For the Second Announcement or Edition (extraordinary of July)

The students that do not surpass the subject in the First Announcement will have a second announcement according to the calendar fixed by the centre.

The students that have not surpassed the subject in the First Announcement will be able to present to the Second Announcement, where will realise an examination that will cover the whole of the contents of the subject, so many theorists like practical, and that they will be able to include test type test, questions of reasoning, resolution of problems and development of practical cases. It demands reach a minimum qualification of 5,0 points on 10,0 possible to be able to surpass the subject.

Calendar of examinations: Verify /consult of up to date form in the page web of the centre:

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

Sources of information

Basic Bibliography

Project Management Institute, **GUIA DE LOS FUNDAMENTOS DE LA DIRECCION DE PROYECTOS**, 6ª, PMI, 2017

Project Management Institute, **A guide to the project management body of knowledge : (PMBOK guide)**, 6ª, PMI, 2017

Buchtik, Liliana, **Secrets to mastering the WBS in real-world project**, 2º, PMI, 2013

Buchtik, Liliana, **Secretos para dominar la gestión de riesgos en proyectos**, 11, Buchtik Global, 2013

Complementary Bibliography

Toro Lopez, Francisco, **Gestión de Proyectos con enfoque PMI al usar Project y excel**, 1º, ECOE, 2011

ENI, **Microsoft Project 2016**, 1º, ENI, 2016

Chatfield, Carls, **Microsoft Project 2016 step by step**, 1º, MicroPress, 2016

Mulcahy, Rita, **Preparación para el examen PMP**, 8º, RMC Public, 2013

Mulcahy, Rita, **PMP exam prepare**, 8º, RMC Public, 2013

Klastorin, Ted, **Gestión de proyectos : con casos prácticos, ejercicios resueltos Microsoft Project, Risk y hojas de cálculo**, 1º, PROFIT, DL, 2010

Goicoechea Castaño, Itziar, **PROYECTOS DE EDIFICACIONES Y CONSTRUCCIONES INDUSTRIALES**, 1, Andavira, 2009

Díaz Martín, Ángel, **EL ARTE DE DIRIGIR PROYECTOS**, 3ª, RA-MA, 2010

Recommendations

Other comments

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