IDENTIFYING DATA
(*)Xestión e dirección tecnolóxica

Subject	(*)Xestión e dirección tecnolóxica				
Code	V05G300V01801				
Study programme	(*)Grao en Enxeñaría de Tecnoloxías de Telecomunicación				
Descriptors	ECTS Credits		Choose	Year	Quadmester
	6		Mandatory	4th	2nd
Teaching language	Spanish				
Department					
Coordinator	González Castaño, Francisco Javier				
Lecturers	Fernández Hermida, Xulio García Duque, Jorge González Castaño, Francisco Javier				
E-mail	javier@det.uvigo.es				
Web	http://http://faitic.uvigo.es				
General description	This course provides skills in design, management and leadership of technological projects. This includes detection of needs, technological surveys, team creativity techniques, project management, property definition and protection, and entrepreneurship strategies.				

Competencies

Code	
A1	CG1: The ability to write, develop and sign projects in the field of Telecommunication Engineering, according to the knowledge acquired as considered in section 5 of this Law, the conception and development or operation of networks, services and applications of Telecommunication and Electronics.
A2	CG2: The knowledge, comprehension and ability to apply the needed legislation during the development of the Technical Telecommunication Engineer profession and aptitude to manage compulsory specifications, procedures and laws.
A4	CG4: The ability to solve problems with initiative, to make creative decisions and to communicate and transmit knowledge and skills, understanding the ethical and professional responsibility of the Technical Telecommunication Engineer activity.
A5	CG5: The knowledge to perform measurements, calculations, assessments, appraisals, technical evaluations, studies, reports, task scheduling and similar work to each specific telecommunication area.
A6	CG6: The aptitude to manage mandatory specifications, procedures and laws.
A7	CG7: The ability to analyze and assess the social and environmental impact of technical solutions.
A8	CG8: To know and apply basic elements of economics and human resources management, project organization and planning, as well as the legislation, regulation and standarization in Telecommunications.
A9	CG9: The ability to work in multidisciplinary groups in a Multilanguage environment and to communicate, in writing and orally, knowledge, procedures, results and ideas related with Telecommunications and Electronics.
A63	(CE54/PY1) The ability to elaborate the proposal of technical projects according to the specified requirements in a public competitive bidding.
A64	(CE55/PY2) The ability for technical direction of telecommunication project.
A65	(CE56/PY3) The ability to manage telecommunication project human resources and economic.
A66	(CE57/PY4) The ability to elaborate technical reports and for the follow up of a telecommunication project.
B2	To approach a new problem considering first the essential and then the secondary aspects
B4	The ability to use software tools that support problem solving in engineering
B5	The ability to use software tools to search for information or bibliographical resources

Learning aims

Expected results from this subject	Training and Learning Results	
Interpreting needs as technological problems	A4	B2

Identifying and handling relevant sources for technological surveys	A66	B5
Techniques to boost team creativity	A4 A9 A65	
Design and management of large-scale technological projects	A1 A5 A63 A64 A65 A66	
Choosing and using project management tools		B4
Management of R&D human resources	A4 A8 A9 A64 A65	
Legal aspects	A2 A4 A6 A7 A8	
First steps towards the creation of a start-up	A2 A4 A6 A8	

Contents

Topic	
Identifying and interpreting needs	- Gathering requisites - Translating needs into technical objectives - Technological perspective. Hype cycles - Sources and methods for technical surveys
Creativity techniques	- Research, development and innovation - Team methods to boost creativity - Is my idea original? Formulating and evaluating it
Project design and management	- Project motivation - Enumerating technical goals - Translating goals into tasks - Planning the project - Project resources and budgets - Tracking project evolution - CIN/352/2009 reguration
Team management	- R&D teams: roles and profiles - Multidisciplinarity - Management techniques - Performance analysis
Entrepreneurship	- From the idea to the business plan - Looking for capital - Technological partnerships - First steps towards the creation of an enterprise
Legal aspects	- Types of property: Intellectual and industrial - Technological actives vs. legal property. Models, patents. Licenses - Spanish case/international case. Europe and the US. Internationalization hints - Ethic and professional responsibility - Social and medioambiental impact - Other regulatory aspects
(*)-	(*)-

Planning

	Class hours	Hours outside the classroom	Total hours
Master Session	22	26	48
Projects	4	20	24
Troubleshooting and / or exercises	2	12	14
Practice in computer rooms	28	36	64

*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	Oral presentation of the main concepts of the course by the professors, supported by multimedia. Lectures by experts
Projects	Personal project (individual or in groups) to be presented during class hours A of the last week
Troubleshooting and / or exercises	Brief individual assignments on the topics of the master sessions
Practice in computer rooms	Práctice on aspects of specification of requisites, creativity and project design and tracking using computer tools

Personalized attention

Methodologies	Description
Projects	- The professors will publish a timetable to attend the students individually at their offices - Course documentation (slides employed in the classroom, homework, questionnaires of practical assignments, documentation for the seminars, recommended lectures) will be available through the TEMA platform (http://faitic.uvigo.es)
Troubleshooting and / or exercises	- The professors will publish a timetable to attend the students individually at their offices - Course documentation (slides employed in the classroom, homework, questionnaires of practical assignments, documentation for the seminars, recommended lectures) will be available through the TEMA platform (http://faitic.uvigo.es)

Assessment

	Description	Qualification
Master Session	Short exam, evaluation of proactivity in the classroom	25
Projects	Public defense	30
Troubleshooting and / or exercises	Correction by the professors	5
Practice in computer rooms	Evaluation of partial and final results. Self-evaluation	40

Other comments on the Evaluation

Sources of information

- V. Chiesa (2001), R&D Strategy and Organisation, Imperial College Press
- R. Florida, J. Goodnight, Managing for Creativity, Harvard Business Review
- https://www.openproject.org/about
- M. Michalko, Thinkertoys: A Handbook of Creative-Thinking Techniques (2nd edition, ISBN-10: 1580087736 | ISBN-13: 978-1580087735)
- A. Osterwalder, Y. Pigneur, Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers (ISBN: 978-2-8399-0580-0)

Recommendations