

230811 - CBI - Challenge Based Innovation

Coordinating unit:	230 - ETSETB - Barcelona School of Telecommunications Engineering
Teaching unit:	710 - EEL - Department of Electronic Engineering
Academic year:	2014
Degree:	BACHELOR'S DEGREE IN TELECOMMUNICATIONS SCIENCE AND TECHNOLOGY (Syllabus 2010). (Teaching unit Optional)
ECTS credits:	6
Teaching languages:	English

Teaching staff

Coordinator:	Bragos Bardia, Ramon
Others:	Ramos Castro, Juan Jose Fábregas Canovas, Francesc Xavier

Prior skills

To do this course must have taken and passed the Advanced Project Engineering Degree in Telecommunication Sciences and Technologies in its mode CBI @ CERN

Degree competences to which the subject contributes

Generical:

09 CSCT N3. ABILITY TO CONCEIVE, DESIGN, IMPLEMENT AND OPERATE COMPLEX ICT SYSTEMS. Level 3. To identify market needs and opportunities. To collect information to prepare specifications for a new product, process or service. To prepare a basic business plan. To conceive a new product, process or service. To develop and implement planning of a design process. To carry out the various phases of the design process.

Transversal:

01 EIN N3. ENTREPRENEURSHIP AND INNOVATION - Level 3. Using knowledge and strategic skills to set up and manage projects. Applying systemic solutions to complex problems. Devising and managing innovation in organizations.

02 SCS N3. SUSTAINABILITY AND SOCIAL COMMITMENT - Level 3. Taking social, economic and environmental factors into account in the application of solutions. Undertaking projects that tie in with human development and sustainability.

Teaching methodology

Training sessions
Workgroups
Oral presentation
Guided activities

Learning objectives of the subject

By carrying out a project in a multidisciplinary and international environment, the student:

- Take initiatives that create new opportunities and solutions with vision of process implementation and market.
- Uses knowledge and strategic skills for creating and managing projects with innovative vision, applied systemic solutions to complex problems.
- Applying sustainability criteria and codes of ethics of the profession in the design and assessment of technological solutions. Identifies the need for legislation, regulations and standards.
- Meet the concept of life cycle of a product and applied to the development of ICT products and services, using the

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appropriate regulations and legislation.

- Learn with books and articles in English and can write a report or technical work in English and participate in a workshop conducted in English.
- You can conduct an oral presentation in English and answer questions from the audience.
- Uses strategies to prepare and conduct oral presentations and write texts and documents whose content is coherent, appropriate structure and style and good spelling and grammatical errors.
- Communicates clearly and efficiently in oral and written presentations on complex subjects, adapting to the situation, to audiences and communication objectives.
- Plan and agree objectives, operating rules, responsibilities, agenda and labor review procedure.
- Identify user needs and develops a definition of product-process-service and initial specifications. Follow a management model of the design process based on a standard. Assesses the implementation of legislation and regulations.
- Identify the needs and market opportunities. Collect information to enable development of the specifications of a new product or service process. Develops a basic business plan. Performs planning and implementation of a design process.

Study load

Total learning time: 150h	Hours large group:	8h	5.33%
	Hours small group:	56h	37.33%
	Self study:	86h	57.33%

Content

Formative sessions	Learning time: 16h Theory classes: 8h Self study : 8h
Description: Guidelines for the project and to adapt to different working methods in projects . Criteria for monitoring the different phases of the project.	
Guided Activities	Learning time: 134h Laboratory classes: 56h Self study : 78h
Description: Completion of the implementation phase of the proposed project from the preliminary stages of identifying the need and proposed the solution : <ul style="list-style-type: none"> - Generation from requirements specifications - Design and implementation of a prototype that allows a proof of concept - Validation of the prototype with real users - Generation of documentation or process design, prototype and conducted test results - Public presentation of the finished product and the results of the validation - Removing or conclusions and proposals for improvement 	

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Qualification system

- Evaluation of planning documents and monitoring (40%)
- Evaluation of the final presentation (30%)
- Evaluation of the degree of utilization of the experience in a multidisciplinary and international team (30%)

This course will assess generic skills that apply :

- Entrepreneurship and Innovation (High Level)
- Sustainability and social commitment (High Level)
- Ability to conceive, design, implement and operate complex systems in the field of ICT (High Level)

Bibliography