

## Course guide

### 300014 - ETS - Business, Telecommunications and Sustainability

**Last modified:** 21/06/2024

**Unit in charge:** Castelldefels School of Telecommunications and Aerospace Engineering  
**Teaching unit:** 732 - OE - Department of Management.  
707 - ESAII - Department of Automatic Control.  
744 - ENTEL - Department of Network Engineering.

**Degree:** BACHELOR'S DEGREE IN NETWORK ENGINEERING (Syllabus 2009). (Compulsory subject).  
BACHELOR'S DEGREE IN TELECOMMUNICATIONS SYSTEMS ENGINEERING (Syllabus 2009). (Compulsory subject).

**Academic year:** 2024    **ECTS Credits:** 6.0    **Languages:** Catalan, Spanish

#### LECTURER

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**Coordinating lecturer:** Definit a la infoweb de l'assignatura.

**Others:** Definit a la infoweb de l'assignatura.

#### DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

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**Specific:**

1. CE 5 TELECOM. Students will acquire an understanding of companies and their institutional and legal framework and of business administration and management. (CIN/352/2009, BOE 20.2.2009)

**Generical:**

7. PROJECT MANAGEMENT - Level 1: To know project management tools carrying out the different phases of the project established by the professor

**Transversal:**

2. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 1. Planning oral communication, answering questions properly and writing straightforward texts that are spelt correctly and are grammatically coherent.
3. ENTREPRENEURSHIP AND INNOVATION - Level 1. Showing enterprise, acquiring basic knowledge about organizations and becoming familiar with the tools and techniques for generating ideas and managing organizations that make it possible to solve known problems and create opportunities.
4. SUSTAINABILITY AND SOCIAL COMMITMENT - Level 1. Analyzing the world's situation critically and systemically, while taking an interdisciplinary approach to sustainability and adhering to the principles of sustainable human development. Recognizing the social and environmental implications of a particular professional activity.
5. TEAMWORK - Level 1. Working in a team and making positive contributions once the aims and group and individual responsibilities have been defined. Reaching joint decisions on the strategy to be followed.
6. EFFECTIVE USE OF INFORMATION RESOURCES - Level 1. Identifying information needs. Using collections, premises and services that are available for designing and executing simple searches that are suited to the topic.
- 02 SCS N2. SUSTAINABILITY AND SOCIAL COMMITMENT - Level 2. Applying sustainability criteria and professional codes of conduct in the design and assessment of technological solutions.

## TEACHING METHODOLOGY

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Students will develop a business plan linked to the telecommunications industry. The subject introduces students to the challenge of creating a company. The methodology used is known as PBL, Project-Based Learning. Through the proposed project students will know the basic elements involved in the creation of a company and its external constraints.

This methodology will involve teamwork, autonomous learning and individual responsibility to the group. The faculty will guide and provide the tools to enable students to apply the knowledge of the acquired knowledge autonomously. The oral presentations of intermittent activities will allow the analysis and evaluation of the work done by the groups. The Business Plan document will be the evidence of the learning achieved and will allow the evaluation of the final work.

## LEARNING OBJECTIVES OF THE SUBJECT

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On completing the Management, Telecommunications and Sustainability course, students will be able to:

- Understand the concepts behind a business plan.
- Interpret basic business information.
- Understand the decision-making process in companies.
- Understand the elements involved in economic activity and how they operate as a system.
- Identify the regulatory aspects of business activities.
- Understand the regulation of telecommunications markets.
- Write an informative article following a set of communication guidelines.
- Give a spoken presentation following a set of communication guidelines.
- Identify the documentary sources that are most relevant to a given objective.
- Effectively use audiovisual resources.
- Understand complexity, global affairs, the welfare state and globalisation.
- Understand and be able to apply the concept of sustainability.

## STUDY LOAD

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Type	Hours	Percentage
Hours large group	28,0	18.67
Hours medium group	38,0	25.33
Self study	84,0	56.00

**Total learning time:** 150 h

## CONTENTS

### Business Studies

#### Description:

##### 1. COMPANY

Types of companies and their operation. Organizational structure. Company information system: The balance sheet and income statement. The Marketing Plan; its objectives and structure. Market analysis. Business strategy. Organization chart and assignment of tasks. Investment evaluation: TIR and NPV. Risk analysis.

##### 2. CREATION OF COMPANIES

Phases in the creation of a company: detection of the opportunity, knowing the client, elaboration of the Lean Canvas, capture of resources, phase of launching, phase of consolidation and phase of growth. Canvas and Lean Canvas. Competition analysis and market positioning. Product definition. Minimum viable product. The team: professional profiles. Operational plan and sizing of resources. Financial plan and ratios.

#### Specific objectives:

Identify reliable sources of information

Understand the elements of a Canvas / Lean Canvas

Understanding the structure of a Business Plan

Learn the basic principles of accounting

Analyze the viability and profitability of a business idea

Develop business idea

Write a Business Plan

Learn the keys to good oral and apply them to presentations

Get the keys to writing readable texts and apply them in the business plan document.

#### Related activities:

Read documentation provided

Find reliable sources of information relevant

Canvas develop a business idea chosen

Analyze the market using Porter's 5 Forces

Target customers.

Positioning the company.

Define strategies and design a marketing plan.

Indicate the process and calculate the sales forecast.

Designing the organizational structure of the company

Prepare an initial balance

Prepare a financing plan

Prepare an income statement

Analyze the profitability of the company in the first three years.

#### Full-or-part-time: 112h 30m

Theory classes: 36h

Guided activities: 9h

Self study : 67h 30m



## Sustainability

### Description:

An introduction to the concepts and tools for understanding and applying sustainability.

1. Global situation and causes of non-sustainability
2. Sustainable development
3. Systemic complexity
4. Globalisation and politics
5. Values and development
6. Technological and administrative tools

### Related activities:

Role-play  
Video  
Tests  
Simulation of Complex Systems  
Cooperation and Defection Game

**Full-or-part-time:** 37h 30m

Theory classes: 12h

Guided activities: 3h

Self study : 22h 30m

## ACTIVITIES

### INFORMATION RETRIEVAL

#### Description:

Students will gather useful information and evaluate the sources and references found for the project. Groups of 4-5 students will search for technical information that will enable them to carry out their assignments. They will share the information found for subsequent development and evaluation.

#### Specific objectives:

Students will familiarise themselves with the UPC Library Catalogue and gather information using Internet search engines.

#### Material:

An information session given by the Campus Library Service.

#### Delivery:

The assignments will be subject to formative assessment. A bibliography must be included in the business plan.

- The bibliography
- An appraisal of the information

## WRITTEN COMMUNICATION

### Description:

Students will develop their projects in teams by preparing draft and final versions of the business plan. The final version will incorporate the lessons learned in the exercises.

### Specific objectives:

On completing the course, students will have:

- Applied readability criteria.
- Learnt how to organise a text.
- Learnt how to define and order ideas.
- Applied document presentation criteria.

At the end of the course, students will have prepared the business plan.

### Material:

Notes and webs

### Delivery:

Assessment will be formative. Students will participate in their own learning by self-assessment and co-assessment.

They will be given the appropriate guidelines and examples to help them prepare and evaluate their tasks. Lecturers will provide feedback on their progress.

Because the assessment is formative, the assignments are compulsory and will count for 25% of the final mark for communication.

Assignments will be graded as Satisfactory (if the assignment has been handed in and the suggestions for improvement given by staff/colleagues have been adopted), Unsatisfactory (if the assignment has been handed in and the suggestions for improvement given by staff/colleagues have not been adopted) or Not completed.

To pass this part of the course at least 80% of class and other activities must be completed.

The business plan will form 25% of the final mark for communication. Students will be given the criteria for correctly completing this assignment when the project begins.

## SPOKEN COMMUNICATION

### Description:

Students will prepare an MS PowerPoint presentation of a business plan. As the project develops students will apply their knowledge about verbal communication and prepare the presentation of their business plan.

### Specific objectives:

On completing the course, students will have learnt and applied the following presentation concepts:

- Reasoning
- Body language
- Voice projection
- Audio resources
- Visual resources

On completing the course, students will present the business plan.

### Material:

MS PowerPoint, Atenea, webcam, videos, notes, and guidelines on criteria.

### Delivery:

Assessment will be formative. Students will participate in their own learning by self-evaluating and co-evaluating. They will be given the appropriate guidelines and examples to help them prepare and evaluate their tasks. Lecturers will provide feedback on their progress.

Assignments will be graded as Satisfactory (if the assignment has been handed in and the suggestions for improvement given by staff/colleagues have been adopted), Unsatisfactory (if the assignment has been handed in and the suggestions for improvement given by staff/colleagues have not been adopted) or Not completed.

Between three and four assignments will be corrected and given a mark from 0 to 10.

To pass this part of the course at least 80% of class and other activities must be completed.

The presentation of the business plan will count as 25% of the final mark for communication. Students will be given the criteria for preparing and delivering the presentation when the project begins. A representative student will be randomly selected from each group to give the presentation and the mark will count for the group as whole, thus bringing the issue of personal responsibility into play.

### Full-or-part-time: 12h

Self study: 6h

Practical classes: 6h

## MS POWERPOINT

### Description:

Students will learn how to effectively use MS PowerPoint in the preparation of their business plan presentation.

### Specific objectives:

On completing the course, students will have prepared a PowerPoint presentation of the business plan.

### Material:

Examples of PowerPoint for analysis, as well as demonstrations.

### Delivery:

Each group will prepare at least 3 PowerPoint (formative assessment).

Each group will prepare a PowerPoint presentation of the business plan.

### Full-or-part-time: 8h

Self study: 6h

Practical classes: 2h



### ROLE-PLAY (BUSINESS)

**Description:**

Computerised role-play to gain an understanding of international business relations.

**Specific objectives:**

To understand aspects of international trade.

**Material:**

Instant message service, rules, and test.

**Delivery:**

Test forms 12.5% of the mark for sustainability.

**Full-or-part-time:** 1h

Practical classes: 1h

### VIDEO

**Description:**

Screening of the video 'The Story of Stuff' followed by discussion and group answers to questions.

**Specific objectives:**

To learn to critically discuss consumerism and non-sustainability.

**Material:**

Video and test.

**Delivery:**

Test forms 12.5% of the mark for sustainability.

**Full-or-part-time:** 3h

Self study: 2h

Practical classes: 1h

### TESTS

**Description:**

Tests on the sustainability concepts studied.

**Specific objectives:**

To evaluate the knowledge acquired.

**Material:**

Electronic and paper tests/Atenea

**Delivery:**

Tests

Co-assessment among colleagues. The results of the co-assessment and online assessment on Atenea will be compared. Topics 1 and 2 count for 20% of the mark for sustainability. Topics 3 and 4 count for 20%. (The sustainability part of the project, the environmental impact assessment questionnaire and indicators, will form 5% + 5%).

**Full-or-part-time:** 7h

Self study: 6h

Practical classes: 1h



### SIMULATION OF COMPLEX SYSTEMS

**Description:**

Students will run interactive simulations of various complex systems and answer questions.

**Specific objectives:**

To experiment with complex behaviours.

**Material:**

Electronic simulations and test.

**Delivery:**

Test forms 12.5% of the mark for sustainability.

**Full-or-part-time:** 2h 30m

Self study: 2h

Practical classes: 0h 30m

### COOPERATION AND DEFECTION GAME

**Description:**

Plan a strategy to play an interactive cooperation and defection game tournament.

**Specific objectives:**

To discover the advantages and risks of cooperation.

**Material:**

Tournament games

**Delivery:**

A strategy plan, which counts for 12.5% of the mark for sustainability.

**Full-or-part-time:** 3h 30m

Self study: 3h

Practical classes: 0h 30m

### Business Plan

**Description:**

Read documentation provided

Find reliable sources of information relevant

Canvas develop a business idea chosen

Analyze the market using Porter's 5 Forces

Target customers.

Positioning the company.

Define strategies and design a marketing plan.

Indicate the process and calculate the sales forecast.

Designing the organizational structure of the company

Prepare an initial balance

Prepare a financing plan

Prepare an income statement

Analyze the profitability of the company in the first three years.

**Material:**

Notes and webs

**Full-or-part-time:** 19h 50m

Self study: 4h

Guided activities: 15h 50m



## GRADING SYSTEM

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Mid-and final semester examination:.....35%  
Project:.....35%  
Sustainability: .....15%  
Activities .....15%  
Subjective assessment:.....10%

## EXAMINATION RULES.

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The coordinator must be informed when a student cannot follow the established work plan. No mark will be given if a student is absent without justification during the presentation of the business plan.

## BIBLIOGRAPHY

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### Basic:

- Cassany, Daniel. La cuina de l'escriptura. 1a ed.. Barcelona: Empúries, 2002. ISBN 8475969135.
- Rubio, Joana; Puigpelat, Francesc. Com parlar bé en públic. Barcelona: Pòrtic, 2000. ISBN 8473065867.
- Solà, Joan; Cassany, Daniel; Gibert Sunyer, Jaume. Llibre d'estil. 2ª ed. Barcelona: direcció de comunicació de la Caixa d'Estalvis i Pensions de Barcelona, 1993. ISBN 8487135129.
- Goxens, María Ángeles. Comptabilitat empresarial apta per a tots els públics. Barcelona: Publicacions de la Universitat de Barcelona, 2005. ISBN 8447528847.
- Xercavins, Josep. Desarrollo sostenible [on line]. Barcelona: Edicions UPC, 2005 Available on: <http://hdl.handle.net/2099.3/36752>. ISBN 8483018055.
- Mulder, Karel. Desarrollo sostenible para ingenieros [on line]. Barcelona: Edicions UPC, 2007 [Consultation: 20/10/2022]. Available on: <http://hdl.handle.net/2099.3/36831>. ISBN 9788483018927.
- Goxens, María Ángeles. Comptabilitat empresarial apta per a tots els públics. Barcelona: Publicacions de la Universitat de Barcelona, 2005. ISBN 8447528847.
- Velasco, Félix. Aprender a elaborar un plan de negocio. Barcelona: Paidós, 2007. ISBN 9788449319716.
- Ollé, Montserrat. El Plan de empresa : cómo planificar la creación de una empresa. Barcelona: Marcombo, 2008. ISBN 9788426714800.
- González Salazar, Diana M. Plan de negocios para emprendedores al éxito. México: McGraw-Hill, [2007]. ISBN 9789701059340.

### Complementary:

- Pastor, Lluís. Retòrica exprés : el sistema ràpid basat en els clàssics per comunicar amb èxit. Barcelona: UOC, 2007. ISBN 9788497886666.

## RESOURCES

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### Hyperlink:

- Economic and financial business management. <http://biblioteca.upc.es/edupc/locate4.asp?codi=OE008XXX>- Tools for analysing the ideas behind a business. [http://pinnova.upc.es/Innova/Pagines/servei\\_emprenedors/assessoria.php?id=5](http://pinnova.upc.es/Innova/Pagines/servei_emprenedors/assessoria.php?id=5)- Business plan model
- . [http://pinnova.upc.es/Innova/Pagines/servei\\_emprenedors/assessoria.php?id=6](http://pinnova.upc.es/Innova/Pagines/servei_emprenedors/assessoria.php?id=6)- Help for developing an economic and financial plan. [https://pinnova.upc.es/Innova/Pagines/servei\\_emprenedors/assessoria.php?id=7](https://pinnova.upc.es/Innova/Pagines/servei_emprenedors/assessoria.php?id=7)- Types of companies. [https://pinnova.upc.es/Innova/Pagines/servei\\_emprenedors/assessoria.php?id=2](https://pinnova.upc.es/Innova/Pagines/servei_emprenedors/assessoria.php?id=2)- Carpeta apunts i presentació d'ETS. Resource