

Teaching guide

IDENTIFICATION DETAILS

Degree:	Diploma in Entrepreneurship, Innovation and Technology Transfer (UFV Awarded title associated with Biomedical Engineering)
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Field of Knowledge:	Science
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Faculty/School:	Experimental Science
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Course:	Information and Management in Biomedical Engineering
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Type:	Compulsory Internal
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ECTS credits:	4
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Year:	2
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Code:	24312
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Teaching period:	Fourth semester
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Teaching type:	Classroom-based
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Language:	English
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Total number of student study hours:	100
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Teaching staff	E-mail
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SUBJECT DESCRIPTION

Machines and devices targeting biomedical applications can be developed in universities and public research centers, but also in companies looking to generate a business base on them. All technical developments, at some point, look to add value to the society. But not all of them could be interesting from a business point of view. To learn what are the drivers of a business; what type of relevant information we need to evaluate the potential of a project; where and how can we obtain that information and how do we use it in a business organization is essential to manage a company in a successful way.

An engineer needs to understand the business environment, as most of them will develop their professional careers in companies. In a world full of information, the challenge is to learn how to choose the one that is needed to take proper decisions.

Companies are created to produce profit to the investors, but also to generate value to the society, create employment, and offer solutions to needs, all of it with an ethic approach. University students need to understand this global vision to be able to integrate their technical knowledge, in the business environment, aiming to promote the growth of the economy, so the wellness of the society.

GOAL

- 1.To understand what a business organization is: Companies as a society value generator.
- 2.To identify what are the key areas we need to analyze, from a business point of view, to develop a technical project.
- 3.To identify and manage different sources of information we need to support business decision.
- 4.To understand, as a user, companies' financial information.
- 5.To learn how to use information (patents, markets, competitors, financial etc) as business managers.
- 6.To understand what a business plan is and how do we build one.

PRIOR KNOWLEDGE

At least B2 or equivalent English certificate.

COURSE SYLLABUS

- 1.What is a company
 - a.What are the main goals: the why
 - b. Legal concepts
 - c.Technical feasibility vs business one
 - c.Long term sustainability to create value
- 2.What do we need to analyze in a project from a business point of view
 - a.The need
 - b.Market: size, competitors. DAFO/Porter/5'c market analysis models
 - c.Intellectual property: Freedom to operate, patentability, other alternatives for IP protection
 - d.Feasibility: cost vs potential price
 - e.Regulatory issues
- 3.Financial information of a company
 - a.Definition
 - b.P&L, Balance sheet, cashflow and notes:
 - i.Structure
 - ii.What information provides each statement
 - iii.Interpretation and use
- 4.Business plan
 - a.Definition
 - b.Revenues and Expenses: how to project them
 - c.Investments
 - d.Cash needs.

EDUCATION ACTIVITIES

Classes will be taught using PowerPoint presentation to explain the main concepts of the units. Practical cases will be provided as homework to discuss in class their approaches and solutions. YouTube and TED videos from international key people talking about the different contents of the course will be used as a starting point for discussions. Readings of books related to the subject will be recommended. Teamwork to generate an open discussion about a topic. Individual Project development at the end of the course.

DISTRIBUTION OF WORK TIME

CLASSROOM-BASED ACTIVITY	INDEPENDENT STUDY/OUT-OF-CLASSROOM ACTIVITY
40 hours	60 hours
Unit 1 10h Unit 2 12h Unit 3 12h Unit 4 6h	Unit 1 10h Unit 2 15h Unit 3 15h Unit 4 20h

SKILLS

Develop and promote business mentality to generate value to society

Develop leadership attitudes to integrate technical and business approaches

Develop the business and financial mentality as an additional skill to be integrated with the engineering technical ones.

Manage and identify relevant information to evaluate the business feasibility of a technical project.

LEARNING RESULTS

To understand the company concept in our environment and its key drivers for success

To identify the relevant information to be analyzed to create a company based in a R&D project

Understand market and financial information as a source to evaluate a business and its feasibility

To understand what is a business plan of a company and how to structure it

To learn how to manage business crisis and evaluate failure reasons to generate solutions

LEARNING APPRAISAL SYSTEM

Plagiarism behaviors, as well as the use of illegitimate means in the evaluation test, will be sanctioned in accordance with those established in the University Evaluation Regulation and Coexistence Regulations.

Ordinary evaluation System:

Priority system applicable to all students. It is based on continuous evaluation.

At the end of Unit 1 and 2 presencial exam: - Minimum mark to pass it. 70/100

At the end of Unit 3 and 4 presencial exam: Minimum mark to pass it. 70/100

At the end of the course: individual project development. Develop an Innovative technical project business plan focuses in the business information analysis (not accounting approach) .

Class attendance is mandatory.

Final mark:

50% average of units' partial exams. If some of them are failed, they will be repeated in a final exam (only the unit failed). Final exam is not mandatory for students with more than 70% in partial ones. Final exam could be used to increase the average (voluntary).

15% participation in class discussions and practical cases.

35% Individual project evaluation

The average for the final mark requires a minimum of 40% in the final exam (students with some units failed)

The individual project is mandatory, and students will not pass the subject without it and with a mark below 40/100.

Students failing the subject but with a mark above 40/100 in the project, will keep the project mark to the second call.

Second call will require:

1.Global exam with all the contents.

a.Students with the project approved: Mark required 50/100

b.Students with the project failed: Mark required 75/100

Alternative evaluation system

Students in two or successive enrollments must contact the teacher to request to benefit from this system.

This system is intended for students being enrolled twice or more in the same subject who do not take advantage of the ordinary evaluation system because they cannot attend classes on regular basis.

At the end of units 1 and 2: presencial exam: - Minimum mark to pass it. 70/100

At the end of unites 3 and 4: presencial exam. Minimum mark to pass it. 70/100

At the end of the course: individual project development. Develop an Innovative technical project business plan focuses in the business information analysis (not accounting approach) .

Final mark:

40% average of units' partial exams. If some of them are failed, they will be repeated in a final exam (only the one failed). Final exam is not mandatory for students with more than 70% in partial ones. Final exam could be used to increase the average (voluntary).

60% Individual project evaluation

The individual project is mandatory, and students will not pass the subject without it and with a mark below 50/100.

Class attendance will not be mandatory.

Students failing the subject but with a mark above 50/100 in the project, will keep the project mark to the second call.

Second call will require:

1.Global exam with all the contents.

a.Students with the project approved: Mark required 50/100

b.Students with the project failed: Mark required 75/100

Basic

Pilar de la Huerta Martinez Emprender en Biotecnologia 2021 Editorial LID

Linda Pinson Anatomy of a Business Plan 7th edition ISBN-10 : 9780944205556

ISBN-13 : 978-0944205556

Additional

Simon Sinek Start with why 2009 ISBN-10 : 9781591846444

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