

Academic Year/course: 2021/22

## 68462 - The SME?Biotech: characteristics, creation and management

### Syllabus Information

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**Academic Year:** 2021/22

**Subject:** 68462 - The SME?Biotech: characteristics, creation and management

**Faculty / School:** 100 - Facultad de Ciencias

**Degree:** 626 -

**ECTS:** 6.0

**Year:** 01

**Semester:** Second semester

**Subject Type:** Optional

**Module:**

## 1. General information

### 1.1. Aims of the course

The observation of the business activity reveals that 99% of firms in a country are small and medium enterprises. SMEs are characterized by a number of employees less than 250 or by revenues less than 50 million euros.

SMEs are key agents in the richness and employment creation into a country. This justifies the interest of understanding their characteristics. In a context of SMEs, this course aims to introduce students to the creation process of a new company or, in other words to entrepreneurship. This process requires an integrating consideration of the different functional areas of a company. The business plan becomes a key tool to make a diagnosis of the viability of a new business project from this integrating perspective. The business plan will allow to value the potential of the new firm to generate profits and survive into the market.

These goals are aligned with the Sustainable Development Goals (SDG) of the 2030 Agenda and certain specific targets (<https://www.un.org/sustainabledevelopment/en/>), contributing to some extent to their achievement:

*Goal 4. Quality education,*

Target 4.3. By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.

*Goal 8. Decent work and economic growth,*

Target 8.3. Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.

### 1.2. Context and importance of this course in the degree

The SME-biotech: characteristics, creation and management is an optional course included in study programme of the Master in Biophysics and Quantitative Biotechnology of the University of Zaragoza. This course offers an introduction to key managerial tools that entrepreneurs should consider in order to evaluate the profitability of a new project.

### 1.3. Recommendations to take this course

This subject constitutes a first approach to the entrepreneurial process of a firm and/or new project. As the subject is eminently practical, students should attend the lectures on a regular basis and participate in the different activities that will be carried out in them.

## 2. Learning goals

### 2.1. Competences

**Specific competences:**

1. Direct, manage and administer companies and organizations.
2. Know the operation of any of the functional areas of a company or organization (SME) and carry out with ease any management work entrusted to them.

3. Assess the situation and foreseeable evolution of companies and organizations (SMEs), make decisions and extract relevant knowledge.
4. Prepare and write global management projects for companies and organizations of SMEs.
5. Issue advisory reports on specific situations of markets, sectors, organizations, companies and their functional areas of SME character.

#### **General/Basic competences:**

1. To arrange, analyze critically, understand and synthesize information.
2. To obtain information from different types of sources and evaluate their reliability.
3. To learn efficiently through autonomous study and acquire a significant level of independence.
4. To implement the acquired knowledge and solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to the study area.
5. To formulate, analyze, evaluate and compare new or alternative solutions for different problems.
6. Being able to work in multidisciplinary and international teams.
7. To develop capacity to criticism and self-criticism.
8. To make decisions taking into account social, ethical and legal responsibilities.
9. Be able to develop a project, participating in the stages of bibliographic search, planning of experiments, obtaining results, interpretation, and dissemination of the same.
10. To have and understand knowledge that provides a basis or opportunity to be original in the development and /or implementation of ideas, often in a research context.
11. The students know how to implement the acquired knowledge and their ability to solve problems in new or little known environments within broader (or multidisciplinary) contexts related to their area of study.
12. The students are able to integrate knowledge and face the complexity of provide opinions based on information that, being incomplete or limited, includes reflections on social and ethical responsibilities linked to the application of their knowledge and opinions.
13. The students know how to communicate their conclusions and the latest knowledge and reasons that support them to specialized and non-specialized audiences in a clear and unambiguous way.
14. The students have the learning skills that allow them to continue studying, largely self-directed or autonomous

#### **Transversal competences:**

1. Properly management of the available resources and time for solving a problem or developing a project.
2. To communicate own conclusions and the latest knowledge and reasons that support them-to specialized and non-specialized audiences in a clear and unambiguous way.
3. To transmit oral, writing or graphically information using appropriate presentation tools and with the limitations imposed by time or space.
4. Fluently communication in English (understanding of scientific texts, writing reports, talks, colloquiums, exhibitions, etc.)
5. Use information and Communications Techniques (ICTs) as a tool for expression and communication.
6. Have and understand knowledges that provides a basis of opportunity to be original in the development and / or application of ideas, often in a Research context.
7. Develop technological applications of biochemical processes and transfer solutions to industry in the food, chemical, cosmetic, pharmaceutical and healthcare sectors.

## **2.2. Learning goals**

- **The student in order to pass the course, will have to show her/his competence in the following skills:**

1. Know the mechanisms to prepare a business plan in its entirety, being in a position to determine what are the causal relationships established between the viabilities that make up this plan.
2. To be able to determine the general viability of a company, based on the study of the business plan and to be able to make recommendations aimed at determining the limits that determine its viability.
3. Know the main mechanisms of appropriation of the value of innovations resulting from the entrepreneurial process understood in a broad sense (start-ups, spin-offs and intra-entrepreneurship), with special mention of patents and secrecy.

## 2.3. Importance of learning goals

Entrepreneurship has become a phenomenon of paramount importance that is receiving increasing attention in recent years. On the one hand, entrepreneurship is linked to economic growth of a territory. On the other hand, the type of firm analysed in the course (SME) represents 99% of firms in a country. Therefore, to understand in detail the problems of SMEs seems crucial for students to acquire a detailed knowledge of business reality.

This course offers students the key concepts and tools to understand the problems of the SMEs, as well as the concepts and techniques to develop a business plan. In this context, the course develops a range of attitudes and skills that motivate students for entrepreneurship. Thus, the subject aims to encourage and revitalise SMEs as a means of economic, social and of job creation progress.

In order to achieve the above results, the course must look outward to offer students a more pragmatic and realistic view of the entrepreneurial process. Moreover, the subject provides students with real role models which help to promote the entrepreneurial spirit among them.

## 3. Assessment (1st and 2nd call)

### 3.1. Assessment tasks (description of tasks, marking system and assessment criteria)

#### Assessment tasks:

The student will prove that she/he has achieved the expected learning results by means of the following assessment tasks:

- Development and presentation of a business model. This could be developed in groups of 2-4 people. The document that describes the business model should be around 5 pages and develop each one of the nine blocks included into the CANVAS model, as well as other relevant information.

- Development and presentation of a business plan based on the prior business model. The document should not exceed 40 pages and should include the following sections:

- Introduction that summarizes the origin and justification of the idea, as well as the opportunity for starting-up.
- Strategic viability (analysis of general and specific environment).
- Commercial viability (analysis of demand, marketing plan, product design).
- Technical viability (location, production process)
- Economic-financial viability (financing sources, expected profitability).
- Conclusions

For both business model and plan, the corresponding mark will be the same for all members of the group (except if teachers observe evident asymmetries in the effort of students).

- Final exam - on the date approved by the centre during the exam period in the academic calendar. This exam will have a test, with a theoretical approach. The student will have to demonstrate her/his knowledge of the concepts from the programme and to interrelate them.

- Students should also participate in those activities that professors propose through the moodle2 platform, such as the resolution of exercises and discussion of articles.

#### Assessment criteria:

The student will have to demonstrate the achievement of the learning results and skills through a global evaluation. The final mark of the course will be distributed in the following way:

- Final exam (25% of final mark).
- CANVAS Business model (15% of final mark).
  - Five pages document (10%).
  - Oral presentation (5%)
- Business plan (50% of final mark).
  - First report including introduction, strategic and commercial viability (20%).
  - Second report including technical, legal and economic-financial viability and conclusions (20%).
  - Oral presentation (10%).
- Resolution of tasks proposed during the course (10%).

In the evaluation of each assessment activity, the students will have to demonstrate that they know, understand and are able to use the concepts and tools explained in class. Moreover, their capability to apply, integrate and synthesize the knowledge acquired will be evaluated.

## 4. Methodology, learning tasks, syllabus and resources

### 4.1. Methodological overview

**The learning process that has been designed for this course is based on the following activities:**

Following the programme and achieving the learning outcomes will require continuous work from the student during the course based on the following activities:

- Regular attendance to classes.
- Reading and studying the bibliographic material for each chapter.
- Developing a business plan that analyses in depth the creation process of a new firm.
- Asking about doubts and difficulties that arise in their study of the course contents.

## **4.2. Learning tasks**

The learning activities of the course are the following:

- Theoretical sessions: 30 hours.
- Practical sessions: 30 hours.
- Problem-based learning/ICT learning/Seminars/Tutorials/Individual learning of the student: 90 hours.

## **4.3. Syllabus**

### **1. INTRODUCTION**

- 1.1. The role of SMEs in economic activity
- 1.2. Entrepreneurship: concepts, data and facts
- 1.3. The entrepreneurial process

### **2. INNOVATION**

- 2.1. Innovation and its types
  - 2.1.1. Innovation
  - 2.1.2. Types of Innovation
  - 2.1.3. Open Innovation
- 2.2. Mechanisms of appropriation of the value of innovation
  - 2.2.1. The role of innovation in sustaining the competitive advantage
  - 2.2.2. Formal appropriation mechanisms
  - 2.2.3. Informal appropriation mechanisms

### **3. THE PROCESS OF THE IDEA GENERATION**

- 3.1. The business idea generation: Design thinking
- 3.2. The Business Model Canvas
- 3.3. The Elevator Pitch

### **4. DEVELOPMENT OF A BUSINESS PLAN**

- 4.1. Project development
- 4.2. Strategic analysis
- 4.3. Marketing plan
- 4.4. Technical analysis
- 4.5. Legal and organizational structure
- 4.6. Financial analysis

### **5. LEAN STARTUP**

- 5.1. Introduction
- 5.2. Principles of the Lean Start-up methodology
- 5.3. Specific case studies
- 5.4. Key concepts
- 5.5. Types of pivots

### **6. BUSINESS FINANCING**

- 6.1. Introduction

6.2. Business angels and venture capital

6.3. Bank financing

6.4. Other sources of SMEs financing

6.5. Tips on how convince investors

## **7. STRATEGIC ANALYSIS OF THE BIOTECH COMPANY**

7.1. Strategy, competitive advantage and value creation

7.2. External and internal analyses

7.3. Competitive Strategies

7.3.1. Cost leadership

7.3.2. Differentiation

7.3.3. Blue ocean strategies

7.4. Corporate Strategies

7.4.1. Vertical integration

7.4.2. Diversification

7.4.3. Strategic alliances

7.4.4. Mergers and acquisitions

7.4.5. Internationalization

### **4.4. Course planning and calendar**

The activities and key dates will be communicated via the Universidad de Zaragoza e-learning platform (moodle2). The timetable of assessment activities can be consulted in the webpage of the centres where the course is taught.

### **4.5. Bibliography and recommended resources**

<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=68462>