



Universitat de Lleida

DEGREE CURRICULUM
**ECONOMY FOR
BIOCOMPANIES**

Coordination: VILADRICH GRAU, MONTSERRAT

Academic year 2020-21

Subject's general information

Subject name	ECONOMY FOR BIOCOMPANIES			
Code	101637			
Semester	1st Q(SEMESTER) CONTINUED EVALUATION			
Typology	Degree	Course	Character	Modality
	Bachelor's Degree in Biotechnology	4	OPTIONAL	Attendance-based
Course number of credits (ECTS)	6			
Type of activity, credits, and groups	Activity type	TEORIA		
	Number of credits	6		
	Number of groups	1		
Coordination	VILADRICH GRAU, MONTSERRAT			
Department	BUSINESS ADMINISTRATION			
Teaching load distribution between lectures and independent student work	Number of classroom hours: 60 Number of hours of student autonomous work:90			
Important information on data processing	Consult this link for more information.			
Language	Catalan 70% Spanish 30%			

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
CLOP GALLART, MARIA MERCÈ	mariamerce.clop@udl.cat	2	
JUAREZ RUBIO, FRANCISCO	francisco.juarez@udl.cat	2	
VILADRICH GRAU, MONTSERRAT	montse.viladrich@udl.cat	2	

Learning objectives

Students who pass the subject must: (Knowledge objectives)

1. To know the main tools and concepts that allow the understanding of the functioning of the economy.
2. Know and interpret the structure of the sector and the market of biotechnology and pharmaceutical companies.
3. To become familiar with the basic principles of business administration and management of productive activities organized as projects.

The student who passes the subject must be able to: (Capacity objectives)

1. Organize and direct productive activities organized as projects
2. Administer or direct technical departments in biotechnology companies.

Significant competences

Understand and evaluate the social and economic aspects of biotechnological developments and applications .

Design innovative biotechnological projects by identifying applications, business ideas, work plans and the implementation of new techniques and equipment.

Direct and manage biotechnology companies.

Subject contents

Economics of the Biotechnological Firm

Degree in Biotechnology

Course 2020-21

Topic 1. Biotechnology companies and various types of markets.

- 1.1. Perfect competition. The characteristics and behavior of competitive companies in the market.
- 1.2. The maximization of benefits.
- 1.3. Characteristics of competitive industries.

Topic 2. Market power.

- 2.1. The monopoly Characteristics of a monopoly market.
 - 2.1.1 Why do monopolies appear? Patents
- 2.2. The strategic behavior and the oligopolistic market. Tho oligopolies in the pharmaceutical sector.
 - 2.2.1. The different concepts of strategy.
 - 2.2.2. The Nash Equilibrium..
 - 2.2.3. Games and strategies: The prisoner's dilemma.
- 2.3 What is the market structure of the biotechnology sector?
 - 2.3.1 Monopoly competition
 - 2.3.2 Features of monopolistic competition.
 - 2.3.3 Product differentiation.

Topic 3. Biotechnology companies: Sources of funding, externalities and risk

- 3.1. Sources of financing for biotechnology companies. The capital market.
- 3.2 Financing fund for innovative companies.
- 3.3 Biotechnology companies and regional innovation systems.
- 3.4 The externalities of "knowledge".
- 3.5. Uncertainty, risk and private information.
- 3.6. The situation of companies and the biotechnology industry in Catalonia, Spain and the World.

Parts 2 and 3 Professors: M. Mercè Clop and Francisco Juárez

Topic 4. Business planning.

- 4.1. Nature of planning and goals.
- 4.2. Strategies, policies and premises of the planning.
- 4.3. Decision making.

Topic 5. Direction.

- 5.1. Human factors and motivation.
- 5.2. Leadership.
- 5.3. Committees, Teams and group decision making.
- 5.4. Communication

Topic 6. Selection of projects.

- 6.1. Criteria and models of project selection.
- 6.2. The nature of the project selection models.
- 6.3. Types of project selection models.
- 6.4. The problem of uncertainty.

Topic 7. Projects in organizations.

- 7.1. The development of projects in functional organizations.
- 7.2. Development of projects in pure project organizations.
- 7.3. Development of projects in matrix organizations.
- 7.4. Mixed organizational systems.

Topic 8. Project planning.

- 8.1. Initial coordination of the project.
- 8.2. Integration of systems.
- 8.3. Execution of the project.
- 8.4. The WBS system and responsibility maps.

Topic 9. Temporary planning ("Scheduling").

- 9.1. Techniques PERT, CPM and ROY.
- 9.2. Gantt Graphics.
- 9.3. Critical path
- 9.4. Practices with MS Project.

Topic 10. Assignment of Resources.

- 10.1. Assignment of resources to activities.
- 10.2. Leveling of resources.
- 10.3. Practices with MS Project.

Topic 11. Features of project managers.

- 11.1. Project management and project manager.
- 11.2. Requirements of the project director.
- 11.3. Selection of the project director.

Topic 12. Negotiation and Resolution of conflicts.

- 12.1. The nature of the negotiation.
- 12.2. "Partnering", "Chartering", and Change.
- 12.3. Conflicts and life cycle of the project.
- 12.4. Negotiation principles.

Topic 13. Project control.

13.1. Essential elements of control.

13.2. Type of process control.

13.3. "The Earned Value Chart".

Topic 14. Completion of the project.

14.1. Types of project completion.

14.2. When to finish a project.

14.3. The process of finalizing a project.

14.4. The final report.

Methodology

To facilitate the students' learning process we will apply the following methodologies:

1. An expository methodology through the master class lesson.
2. An interrogative methodology encouraging the students to ask questions to the teacher and vice versa by asking questions from the teacher to the students through classroom exercises and practices.
3. A methodology aimed at the application of the knowledge treated in class through the realization of reports by the student. Reports that will be directed by the teacher.

Evaluation

The evaluation will be continuous. "According to the Regulation of the evaluation and the qualification of students in the undergraduated and masters degrees in the UdL, of February of 2014.

Therefore, if the final grade of the subject obtained by continuous evaluation is suspended, the student will NOT be able to take a final recovery exam.

This subject consists of three parts, each of these parts will be independently evaluated.

Part 1

Part 1 represents 34% of the final grade. The of Part 1 will be calculated as follows:

- Written evaluation that will represent 24% of the final grade or what is the same 70.5 of the final grade of Part 1.
- Problem list solution 10% of the final grade or what matiex is 29.5% of the grade of Part 1.

Part 2

Part 2 of the subject represents 33% of the final grade. The final grade will be calculated as follows: His

improvement includes:

- Daily brief controls, which represent 23% of the final grade or what is the same 69.7% of the grade of Part 2.
- Completion of proposed activities and class attendance, which represents 10% of the final grade or what is the same 30.3% of the grade of Part 2.

Part 3

Part 3 of the subject represents 33% of the final grade. The students grade includes the realization and evaluation of a project.

Bibliography

Basic References

- Bradley, R; Myers, S.; Allen F. (2006). Principios de Finanzas cooperativas. McGrawHill
- DuBrin, A. (2009), Essentials of Management. South Western, Canada.
- Koontz, H.; Weihrich, H.; Cannice, M. (2008), Administración: una perspectiva global y empresarial. McGraw-Hill.
- Krugman, P. I Wells, R (2007). Introducción a la Economía. Microeconomía, Ed. Reverté.
- Meredith, J.R.; Mantel, S.J. (2010) Project Management. A Managerial Approach. Johnn Wiley and Sons, New York.

Additional References

- Carlton D.W. and Perloff, J.M. (2005). *Modern industrial organization*, 4th edition, Pearson, Boston, Massachusetts.
- Ernst & Young (2011). Catalonia Life Sciences Report 2011.
- Genoma España (2011). La relevancia de la biotecnología en España.
- Interbio (2012). *From research to market: Key issues of technology transfer from public research centers to businesses*. Barcelona.