

COURSE GUIDE

Course Data	
Name	Business Economics
Code	DOI-TEL-281
Degree	Grado en Ingeniería Telemática
Year	2º
Semester	2º
ECTS Credits	6 ECTS
Type	Basic
Department	Industrial Engineering
Area	Economics and Business Administration
Coordinator	Pedro Linares

Information of Professors	
Professor	
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SPECIFIC INFORMATION OF THE COURSE

Course context	
Contribution to the professional profile of the degree	
<p>This course introduces the student to the basic concepts of economic theory, financial and cost accounting, developing further those aspects more relevant to industrial engineering. The course is therefore introductory, presenting the fundamental topics of economics, finance and cost accounting which can be later developed at the Masters level.</p> <p>During the course students will learn how to understand and solve microeconomics problems, to analyze macroeconomic issues, to produce financial statements, and to determine the production cost of firms.</p>	
Pre-requirements	
<p>Knowledge of algebra and calculus</p>	

CONTENTS

Contents
MODULE 1: Basic concepts
1: SCARCITY AND CHOICE.
<ul style="list-style-type: none"> 1.1. The problem of scarcity 1.2. The problem of choice: what, how and for whom to produce 1.3. Choice mechanisms: markets, governments, mixed economies 1.4. Difficult choices: market failures and government failures 1.5. Economic science: micro vs macro; theory vs reality
MODULE 2: Microeconomics
2: SUPPLY AND DEMAND
<ul style="list-style-type: none"> 2.1. The market: Participants and interactions 2.2. Demand: individual and market demand, determinants, shifts and movements 2.3. Supply: individual and market supply, determinants, shifts and movements 2.4. Equilibrium, surplus and shortages 2.5. Changes in equilibrium: price ceilings and floors
3: CONSUMER DEMAND
<ul style="list-style-type: none"> 3.1. The demand curve and utility theory 3.2. Price elasticity and its determinants
4: SUPPLY DECISIONS
<ul style="list-style-type: none"> 4.1. The production function 4.2. Costs of production 4.3. Supply horizons: short and long term 4.4. Economic vs accounting costs
5: THE MARKET (I): PERFECT COMPETITION
<ul style="list-style-type: none"> 5.1. Market structure 5.2. Perfect competition 5.3. The firm's production decision 5.4. Profit maximization 5.5. Supply behavior: individual and market 5.6. Industry entry and exit
6. THE MARKET (II): IMPERFECT COMPETITION
<ul style="list-style-type: none"> 6.1. Monopoly: structure, behavior, barriers to entry 6.2. Other non-competitive markets: duopoly, oligopoly, monopolistic competition 6.3. Reasons for market power: R&D, economies of scale, natural monopoly, contestable markets
7. MARKET FAILURES
<ul style="list-style-type: none"> 7.1. Market failures 7.2. Public goods 7.3. Externalities 7.4. Market power 7.5. Inequity 7.6. Macro instability

MODULE 3: Macroeconomics

8. NATIONAL ACCOUNTS

- 8.1. The circular flow of income
- 8.2. National accounts: GDP, GNP, NNP, NI, PCI, APCI
- 8.3. Different approaches to GDP: nominal, real, per capita

9. THE BUSINESS CYCLE

- 9.1. The business cycle and changes in real GDP
- 9.2. Unemployment: concept, determination and types
- 9.3. Inflation: concept, determination, types and effects
- 9.4. Macro determinants and outcomes
- 9.5. Stable or unstable environments
- 9.6. The aggregate supply and demand model
- 9.7. Changes in the model: shifts in aggregate supply and demand
- 9.8. Short term solutions: monetarists, keynesians, supply theorists, the synthesis model
- 9.9. Macroeconomic policies: fiscal, monetary, supply-side

10. FISCAL POLICY

- 10.1 Components of aggregate demand
- 10.2 Fiscal policy
- 10.3 Fiscal stimulus
- 10.4 Fiscal restraint

11. MONEY, BANKS AND MONETARY POLICY

- 11.1 Money: concept and uses. Money supply. Creation of money
- 11.2 The money multiplier. The role of banks
- 11.3 The European Central Bank System
- 11.4 Monetary policy tools. Monetary stimulus and restraint

MODULE 4: Financial accounting

12: FINANCIAL ACCOUNTING

- 12.1 The firm as an economic agent.
- 12.2 Roles of the firm.
- 12.3 Types of firm.
- 12.4 Legal framework.
- 12.5 Organization of the firm.
- 12.6 Nature and purpose. Rules and regulations
- 12.7 Recording data: The accounting equation. Accounts. Bookkeeping. Double entry
- 12.8 Basic financial reporting. Regularization: inventories, depreciation, accruals, value correction

MODULE 5: Management accounting

13: MANAGEMENT ACCOUNTING

- 13.1 Nature and purpose. Classification of costs
- 13.2 Direct costs. Materials. Labor. Other direct costs
- 13.3 Indirect costs. Product and period indirect cost (criteria and accrual systems). Activity-based costs (ABC)
- 13.4 Margin of safety. Fixed and variable costs. Break-even point.

Competences – Learning Results

Competences

Basic Competences
CGT3. Knowledge of basic and technological subjects, which enables students to learn new methods and theories, and gives them versatility to adapt to new environments.
CGT4. Ability to solve problems with initiative, decision, creativity, and critical reasoning; and to communicate and transfer knowledge, abilities and skills, understanding the ethical and professional responsibility of the activity as a Telecommunications Technical Engineer.
CGT5. Knowledge to perform measurements, calculations, valuations, studies, reports, work plans and similar tasks in the specific area of telecommunications.
CG7. Ability to analyze and assess the social and environmental impact of technical solutions.
CG8. Knowledge and application of basic elements of economics and human resources, organization and planning of projects, and regulation and normalization of telecommunications.
CGT9. Ability to work in a multilingual, multidisciplinary environment and to communicate, either orally or in writing, knowledge, procedures, results or ideas related to telecommunications and electronics.
CFBT5. Appropriate knowledge of the concept of the firm, its institutional and legal setting. Business organization and administration.
Specific Competences
CE1. Knowledge of what is a firm and how it is organized . CE2. Understands the basic concepts of economic science. CE3. Knowledge and understanding of how the market works. CE4. Knowledge and understanding of macromagnitudes and macroeconomic policy CE5. Knowledge of financial accounting in the firm CE6. Knowledge and understanding of the major components of the cost of an industrial product
Learning Results
At the end of the course the student must have achieved the following outcomes: RA1. Understands what is a firm and its role in the economic cycle. RA2. Identifies and distinguishes between different types of firms, from an organizational and legal point of view. RA3. Understands Economics as the science of choice. RA4. Understands the fundamental economic problems of society: what, how, and for whom to produce. RA5. Understands the concept of production-possibility frontier (PPF). RA6. Understands the concept of economic system and the roles played by the Government and the market.

- RA7. Understands the concept of market and the different types that exist.
- RA8. Understands the concepts of supply and demand, both of the individual and of the market.
- RA9. Understands the difference between moving along a demand (supply) curve and shifting of a curve.
- RA10. Understands the concept of market equilibrium.
- RA11. Understands the disequilibriums generated by Government interventions (setting maximum and minimum prices).
- RA12. Analyzes and understands the concepts of total and marginal utility.
- RA13. Understands the relevance and concept of demand elasticity.
- RA14. Understands the concept of production function.
- RA15. Understands the difference between short and long term in production and costs.
- RA16. Understands economies of scale in terms of performance and average cost.
- RA17. Understands the structure of the market (monopoly, oligopoly, perfect competition) as a determinant of its outcome.
- RA18. Understands the relationship between the amount to be produced, marginal income, marginal cost, and profit.
- RA19. Analyzes the conditions for a perfectly competitive market.
- RA20. Explains the relationship between variable costs, equilibrium and exit.
- RA21. Knows and analyzes the conditions of imperfect competition markets.
- RA22. Distinguishes between goods and factors markets.
- RA23. Derives and understands supply and demand curves for labor.
- RA24. Analyzes the rules followed by firms to hire personnel.
- RA25. Analyzes the conditions required to achieve an efficient market outcome .
- RA26. Explains the presence of market failures and the concept of externality.
- RA27. Analyzes the major instruments used by the Government to regulate markets.
- RA28. Understands how the economy works through the circular flow of income model .
- RA29. Understands the concept of GDP and the different ways to estimate it.
- RA30. Understands the concepts of real, nominal and per capita GDP .
- RA31. Understands the concept of macroeconomic equilibrium in terms of entries and exits to the circular flow of income.
- RA32. Understands the concept of business cycle.
- RA33. Understands the concept of unemployment, its causes and types.
- RA34. Understands the concept of inflation, and the different costs it creates.
- RA35. Understands the aggregate supply and demand model.
- RA36. Understands the instruments and expected results of macroeconomic policy.
- RA37. Knows and understands the elements of aggregate demand.
- RA38. Is able to classify the different fiscal policy measures.

- RA39. Masters the concepts of money and defines monetary policy.
- RA40. Understands the role of commercial banks and analyzes the process of creation of bank money.
- RA41. Understands the role of the Central European Bank in the determination of the monetary policy of the European Union.
- RA42. Knows the instruments of monetary policy, their use and effects.
- RA43. Justifies the existence of international trade and masters the major concepts related to it.
- RA44. Understands the economic consequences of changes in exchange rates.
- RA45. Understands the concept of annual accounts and their elaboration.
- RA46. Understands the equilibrium between the use and provision of resources.
- RA47. Understands the concept of cost and its different types.
- RA48. Determines the cost of an industrial product using different methods.
- RA49. Understands the concept of break-even point and determines from it the price of a product.

TEACHING METHODOLOGY

General methodological aspects of the course	
<p>In order to achieve the learning objectives stated above, the course will focus on the students' activity and on their active learning. Therefore, the methodology will be oriented towards a more active role of the student.</p>	
Classroom Methodology: Activities	Competences
<p>1. Lectures: the instructor will start from the description of a real situation in which an economic or accounting problem is present. This situation may be introduced by the instructor or proposed by the students. Then the situation will be discussed, and the economic concepts and tools required to address it will be introduced and explained. This will help students learn to identify the basic elements of an economic or accounting issue, how to analyze it, and how to solve it.</p> <p>2. Problem solving / Case discussion: In these sessions tasks previously given to students (problems and case studies) will be discussed, solved and explained. In order to participate in these sessions the student must hand in previously the task</p>	<p>CG3, CG6, CG7, CG9, CFB6, CE1, CE2, CE3, CE4, CE5, CE6</p> <p>CG4, CG5, CG6, CG10, CE2, CE3, CE4, CE5, CE6</p>
Non-Classroom Methodology: Activities	Competences
<p>The objective of non-classroom activities is to understand the concepts and methodologies described in class, and to apply them to the different problems or case studies presented in the classroom or given by the instructor.</p> <p>1. Individual and group study of the concepts, methodologies and techniques learnt during the lectures</p> <p>2. Problem solving</p> <p>3. Case analysis and preparation</p>	<p>CG3, CG6, CG7, CG9, CFB6, CE1, CE2, CE3, CE4, CE5, CE6</p> <p>CG4, CG5, CG6, CG10,</p>

In addition, instructors will address the questions of students individually or in groups during their office hours, and will also help them orient their learning process	CE2, CE3, CE4, CE5, CE6
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EVALUATION ACTIVITIES AND CRITERIA

Evaluation activities	Evaluation Criteria	Weight Percentage
Tests: <ul style="list-style-type: none"> • Test 1(week 4) • Test 2(week 8) • Test 3(week 10) • Test 4(week 12) • Test 5 (week 14) • Final exam 	<ul style="list-style-type: none"> - Understanding of concepts. - Application of concepts to problem solving. - Analysis and interpretation of problem results. - Quality of writing and overall presentation. 	63% (8% each Micro and Macro test, 10.5% each Financial and Management accounting test, 18% final exam)
<p>To be allowed to do the final exam, students must get at least 3.5 in at least three of the intermediate tests.</p> <p>To pass the final exam they must get at least 3 in all of the modules (Microeconomics, Macroeconomics, Financial Accounting, and Management Accounting. The minimum grade to pass the final exam is 5.</p> <p>Programmable calculators are not allowed in any of the tests or quizzes</p> <p>Cell phones, tablets or cameras are not allowed when reviewing tests.</p>		
Short (5-10') quizzes <ul style="list-style-type: none"> • Weeks 2, 6, and 7 	<ul style="list-style-type: none"> - Understanding of concepts. - Application of concepts to problem solving. - Analysis and interpretation of problem results. 	7%
Problems and case studies given for out-of-classroom work	- Handing them in before the corresponding session	10%
Active participation in class	- Questions and comments in class	10%
Short paper analyzing a real economic situation, chosen by the student	- Degree to which students apply what they have learned to the analysis of a real situation	10%

Qualification Criteria

The final grade of the course will result from adding the following elements:

- 63% from the grade in the tests and final exam. Each intermediate Micro and Macro test grade will represent 8%, each Financial and Management Accounting test will represent 10.5%, and the final exam will represent 18% of the final grade. **PROGRAMMABLE CALCULATORS ARE NOT ALLOWED IN INTERMEDIATE TESTS OR FINAL EXAMS.**
- 7% from the results of the short quizzes. In the quizzes, as in other multiple-choice tests, wrong answers will be penalized.

- 10% from handing in the problem sets and case studies given for out-of-classroom work.
 - 10% from the grade corresponding to participation in class.
 - 10% from the grade corresponding to the short paper.
- Extraordinary session**
- The same criteria are valid, except that the extraordinary exam will weigh 30%, the intermediate tests will account for 40%, and the rest (quizzes, problems, participation and paper) will account for 30%.
- Missing more than 15% of the classes may result in the student not being able to take the final exam in its first session.

WORK PLAN AND SCHEDULE¹

In and out-of-class activities	Date/Periodicity	Deadline
• Reading and study of the materials, problem solving	After each session	
• Problem solving	Weekly	Weekly
• Tests and final exam preparation	Weeks 4, 8, 10, 12, 14 and exam period	
• Short paper		Week 11

SUMMARY OF WORKING HOURS OF THE STUDENT			
CLASSROOM HOURS			
Lectures	Problem solving	Tests	
40	14	6	
NON-CLASSROOM HOURS			
Autonomous work – theory	Autonomous work – problems	Test preparation	
30	46	28	
ECTS CRÉDITS:			6 (180 hours)

¹ A detailed work plan of the subject can be found in the course summary sheet (see following page). Nevertheless, this schedule is tentative and may vary to accommodate the rhythm of the class.

BIBLIOGRAPHY AND RESOURCES

Basic References

Textbooks

- Amat, O. (2010) *Finanzas para no financieros*. Gestión 2000
 Dyson J.R. (2010) *Accounting for Non-accounting Students* (8th edition) Pearson
 Mochón, F. (2010) *Principios de economía*. McGrawHill
 Schiler, B. (2011) *Essentials of Economics* (8th edition) McGrawHill
 Schiler, B. (2010) *Principios de economía* (6th edition) McGrawHill

Additional References

Textbooks

- Begg, D., et al: *Economics* (10th edition) McGrawHill
 Hall, R. E. y Lieberman, M. *Economics: Principles and Applications* (2nd edition) South Western
 Harford, T. (2007) *The Undercover Economist*. Abacus
 Mankiw, N. G. *Principles of Economics* (3rd edition) South Western
 Walther, L. M. y Skousen, C. J. (2009) *Managerial and Cost Accounting*. www.bookboon.com
 Walther, L. M. y Skousen, C. J. (2009) *The accounting Cycle*. www.bookboon.com
 Walther, L. M. y Skousen, C. J. (2009) *Using Accounting information*. www.bookboon.com

Week	IN-CLASS ACTIVITIES				OUT-OF-CLASS ACTIVITIES				LEARNING
	h/w	LECTURE & PROBLEM SOLVING	LAB	ASSESSMENT	h/w	SELF-STUDY	LAB PREPARATION AND REPORTING	OTHER ACTIVITIES	Learning Outcomes
1	4	Presentation (1h)+ Chapter 1 (2h) +Chapter 2 (1h)			8	Chapter 1, Chapter 2	1.1, 1.2		RA1, RA2, RA3, RA4, RA5, RA6
2	4	Chapter 2 (1h) + Chapter 3 (2h) + Chapter 4 (1h)		Quiz Chapters 1-2 (10 min)	8	Chapter 2, Chapter 3, Chapter 4	3.1, 3.2, 3.3		RA7, RA8, RA9, RA10, RA11, RA12, RA13
3	4	Chapter 4 (4h)			8	Chapter 4	4.1, 4.2		RA14, RA15, RA16
4	4	Chapter 5 (3h)		Test Chapters 1-4 (1h)	8	Chapter 5	5.1, 5.2		RA17, RA18, RA19, RA20
5	4	Chapter 6 (3h) + Chapter 7 (1h)			8	Chapter 6, Chapter 7	6.1, 6.2		RA21, RA22
6	4	Chapter 7 (1h) + Chapter 8 (3h)		Quiz Chapters 5-6 (10 min)	8	Chapter 7, Chapter 8	7.1		RA23, RA24
7	4	Chapter 9 (2h) + Chapter 10 (2h)		Quiz Chapters 8-9 (10 min)	8	Chapter 9, Chapter 10	Readings		RA25, RA26, RA27, RA28, RA29, RA30, RA31, RA32, RA33, RA34, RA35
8	1	Intersemester Exam (Chapters 5-7)			8	Preparation of the Intersemester Exam			
9	4	Chapter 11 (4h)			8	Chapter 11	Readings		RA36, RA37, RA38, RA39
10	4	Chapter 12 (3h)		Test Chapters 8-11 (1h)	8	Chapter 12	Readings		RA40, RA41
11	4	Chapter 12 (4h)			8	Chapter 12	PB1, PB2		RA40, RA41
12	4	Chapter 12 (2h) + Chapter 13 (1h)		Test Chapter 12 (1h)	8	Chapter 12, Chapter 13	PB3, PB4, PB5		RA42
13	4	Chapter 13 (4h)			8	Chapter 13	PB1, PB2		RA43
14	4	Chapter 13 (3h)		Test Chapter 13 (1h)	8	Chapter 13	PB3		RA43, RA44
15	4	Course overview (4h)			8	All chapters			