

Degree	Type	Year	Semester
4314660 Computer Engineering	OB	1	2

## Contact

Name: Jose Lopez Vicario

Email: Jose.Vicario@uab.cat

## Use of languages

Principal working language: english (eng)

## Prerequisites

No requirements.

## Objectives and Contextualisation

The goals are:

- Learn the basics of business strategy and value creation in organizations.
- Understand the organizational structure of the companies and the main functions that are performed.
- Raise awareness of the ethical and sustainability that directly affect business.
- Understand the major workflows and processes and as incarnated with business functions
- Learn the basics of investment valuation and budget management

## Skills

- Apply the principles of economy and management of human resources and projects, along with legislation, regulations and standards in computer science.
- Communicate and justify conclusions clearly and unambiguously to both specialised and non-specialised audiences.
- Communicate orally and in writing in English.
- Continue the learning process, to a large extent autonomously
- Display a capacity for general and technical management and management of research, development and innovation projects in companies and technology centres, in the field of computer engineering.
- Display a spirit of enterprise and innovation and a wide-ranging vision in the search for new areas to explore in a specific field of the computer engineering profession.
- Integrate and apply the knowledge acquired and solve problems in new or little-known situations within broader (or multidisciplinary) contexts.
- Integrate knowledge and use it to make judgements in complex situations, with incomplete information, while keeping in mind social and ethical responsibilities.
- Lead, plan and supervise multidisciplinary teams
- Lead research, development and innovation projects in companies and technology centres, safeguarding persons and goods and overseeing product quality and certification.
- Responsibly manage information and knowledge when leading multidisciplinary groups and/or projects.
- Solve problems in new or little-known situations within broader (or multidisciplinary) contexts related to the field of study.

- Undertake strategic planning, preparation, direction, coordination, and technical and financial management in the areas of computer engineering related to: computer systems, applications, services, networks, infrastructures or installations and software development centres or factories, applying criteria of quality and environmental sustainability, in multidisciplinary work environments.
- Use acquired knowledge as a basis for originality in the application of ideas, often in a research context.

## Learning outcomes

1. Apply the principles of economy and management of human resources and projects, along with legislation, regulations and standards in computer science.
2. Assess the ethical factors and those of corporate social responsibility that affect business directly.
3. Communicate and justify conclusions clearly and unambiguously to both specialised and non-specialised audiences.
4. Communicate orally and in writing in English.
5. Continue the learning process, to a large extent autonomously
6. Describe the organisational structure of companies and the main functions performed.
7. Differentiate between the workflows and major processes and how these are embedded in business functions.
8. Display a capacity for general and technical management and management of research, development and innovation projects in companies and technology centres, in the field of computer engineering.
9. Display a spirit of enterprise and innovation and a wide-ranging vision in the search for new areas to explore in a specific field of the computer engineering profession.
10. Identify the basic aspects of accounting (balance sheet and income statement) and budget management.
11. Identify the basic aspects of investment valuation and budget management.
12. Identify the different basic aspects of business strategy and value creation in organisations.
13. Integrate and apply the knowledge acquired and solve problems in new or little-known situations within broader (or multidisciplinary) contexts.
14. Integrate knowledge and use it to make judgements in complex situations, with incomplete information, while keeping in mind social and ethical responsibilities.
15. Lead, plan and supervise multidisciplinary teams
16. Responsibly manage information and knowledge when leading multidisciplinary groups and/or projects.
17. Solve problems in new or little-known situations within broader (or multidisciplinary) contexts related to the field of study.
18. Use acquired knowledge as a basis for originality in the application of ideas, often in a research context.

## Content

1. Basics of Business Strategy: Mission, Vision and Values, Environmental Analysis, Goal Setting, ...
2. Business Ethics and Corporate Social Responsibility
3. Value creation and Business Models.
4. Corporate organization. Main functions (Finance, Marketing, Operations, Human Resources)
5. Process Management. Workflows, procedures and processes
6. Primary financial aspects (Balance Sheet and Income Statement). Budget management.
7. Investment and Financing. Introduction to the valuation of investment projects.

## Methodology

The methodology will combine the following activities:

- Theoretical classes
- Exercises classes
- Team project: labs, teamwork and oral presentation
- Written evaluation tests
- Autonomous work
- Tutoring

## Activities

Title	Hours	ECTS	Learning outcomes
<b>Type: Directed</b>			
Labs and Exercises classes	10	0.4	1, 2, 6, 7, 10, 11, 12, 13, 14, 17, 18
Theoretical classes	31	1.24	2, 5, 6, 7, 8, 10, 11, 12
<b>Type: Supervised</b>			
Tutoring	15	0.6	1, 3, 4, 8, 9, 13, 14, 15, 16, 17, 18
<b>Type: Autonomous</b>			
Autonomous work by student	90	3.6	1, 5, 9, 13, 15, 16, 17

## Evaluation

The final grade will be obtained from:

- 40% team project: evaluation of the teamwork performed at the labs and the final presentation. The final presentation will be performed in English (both slides and oral presentation).
- 40% written evaluation tests: during the course two evaluation tests will be carried out (one at the midterm and one at the end of the term). The average of the two tests will be obtained to compute the grade of this part.
- 20% class participation

To compute the final grade, both the "team project" and "written evaluation tests" grades should be equal or higher than 3.5 (no minimum requirement for class participation). In the case that these requirements are not attained, the final grade will be obtained as the minimum between the "team project" and "written evaluation tests" grades.

The final grade should be equal or greater than 5 in order to pass this course.

## Evaluation activities

Title	Weighting	Hours	ECTS	Learning outcomes
Class participation	20%	0	0	3, 14, 17
Team project	40%	2	0.08	1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18
Written evaluation tests	40%	2	0.08	2, 3, 5, 6, 7, 10, 11, 12, 13, 14, 17

## Bibliography

No bibliography