

Academic Year: ( 2019 / 2020 )

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Department assigned to the subject: Mechanical Engineering Department

Coordinating teacher:

Type: Electives ECTS Credits : 6.0

Year : Semester :

## OBJECTIVES

CB1. Students have demonstrated knowledge and understanding in a field of study that builds upon their general secondary education, and is typically at a level that, whilst supported by advanced textbooks, includes some aspects that will be informed by knowledge of the forefront of their field of study

CB4. Students can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences

CG3. Solve problems with initiative, decision making, creativity, and communicate and transmit knowledge, skills and abilities, understanding the ethical, social and professional responsibility of the engineering activity. Capacity for leadership, innovation and entrepreneurial spirit.

CT1. Work in multidisciplinary and international teams as well as organize and plan work making the right decisions based on available information, gathering and interpreting relevant data to make judgments and critical thinking within the area of study.

CT4. Acquire and handle basic humanistic knowledge to complete the student's cross-sectional formative profile.

CT5. Handle interpersonal skills about initiative and responsibility, negotiation, emotional intelligence, etc. as well as calculation tools that allow to consolidate the basic technical skills that are required in any professional environment.

RA1. To have acquired sufficient knowledge and proved a sufficiently deep comprehension of the basic principles, both theoretical and practical, and methodology of the more important fields in science and technology as to be able to work successfully in them;

RA2. To be able, using arguments, strategies and procedures developed by themselves, to apply their knowledge and abilities to the successful solution of complex technological problems that require creating and innovative thinking;

RA3. To be able to search for, collect and interpret relevant information and data to back up their conclusions including, whenever needed, the consideration of any social, scientific and ethical aspects relevant in their field of study;

RA4. To be able to successfully manage themselves in the complex situations that might arise in their academic or professional fields of study and that might require the development of novel approaches or solutions;

RA6. To be aware of their own shortcomings and formative needs in their field of specialty, and to be able to plan and organize their own training with a high degree of independence.

## DESCRIPTION OF CONTENTS: PROGRAMME

1. Concept of the firm

\* Key concepts.

\* Typology.

\* Institutional and legal framework.

\* Management activities. Main functional areas. The Operations subsystem.

2. Financial management

2.1. Accounting. Analysis of financial statements

\* The Balance Sheet.

\* The Income Statement.

2.2. Investment decisions

- \* Analysis of investment projects.
- \* Mutually exclusive projects.
- 2.3. Financing decisions
  - \* Financing sources.
  - \* Debt financing, equity financing.
- 3. Analysis of the company's economic environment to support decision making
  - 3.1. Supply and demand. Perfect and imperfect competition.
  - 3.2. Social and environmental framework of the business firm. Government intervention.
- 4. Strategic management
  - \* The strategic analysis process.
  - \* Major analysis tools.
  - \* The management function.
  - \* Business processes and cross-functional integration
  - \* Entrepreneurship.
- 5. Marketing and sales management
  - \* Marketing fundamentals.
  - \* The four basic marketing aspects. Marketing Mix.
  - \* The marketing plan.
- 6. Human resource management
  - \* Main functions.
  - \* Leadership and motivation.
  - \* Organizational structure.
- 7. Role of engineering and engineers in business administration.

## LEARNING ACTIVITIES AND METHODOLOGY

AF1. THEORETICAL-PRACTICAL CLASSES. Knowledge and concepts students must acquire. Receive course notes and will have basic reference texts. Students partake in exercises to resolve practical problems

AF2. TUTORING SESSIONS. Individualized attendance (individual tutoring) or in-group (group tutoring) for students with a teacher. Subjects with 6 credits have 4 hours of tutoring/ 100% on-site attendance.

AF3. STUDENT INDIVIDUAL WORK OR GROUP WORK. Subjects with 6 credits have 98 hours/0% on-site.

AF9. FINAL EXAM. Global assessment of knowledge, skills and capacities acquired throughout the course. It entails 4 hours/100% on-site

MD1. THEORY CLASS. Classroom presentations by the teacher with IT and audiovisual support in which the subject's main concepts are developed, while providing material and bibliography to complement student learning

MD2. PRACTICAL CLASS. Resolution of practical cases and problem, posed by the teacher, and carried out individually or in a group

MD3. TUTORING SESSIONS. Individualized attendance (individual tutoring sessions) or in-group (group tutoring sessions) for students with teacher as tutor. Subjects with 6 credits have 4 hours of tutoring/100% on-site.

MD6. LABORATORY PRACTICAL SESSIONS. Applied/experimental learning/teaching in workshops and laboratories under the tutor's supervision.

## ASSESSMENT SYSTEM

<b>% end-of-term-examination/test:</b>	60
<b>% of continuous assessment (assignments, laboratory, practicals...):</b>	40

SE1. FINAL EXAM. Global assessment of knowledge, skills and capacities acquired throughout the course. The percentage of the evaluation varies for each subject between 60% and 0%.

SE2. CONTINUOUS EVALUATION. Assesses papers, projects, class presentations, debates, exercises, internships and workshops throughout the course. The percentage of the evaluation varies for each subject between 40% and 100% of the final grade.