

Academic Year: (2024 / 2025)

Review date: 17-01-2025

Department assigned to the subject: Mechanical Engineering Department

Coordinating teacher: USERO SANCHEZ, MARIA BELEN

Type: Basic Core ECTS Credits : 3.0

Year : 4 Semester : 2

Branch of knowledge: Engineering and Architecture

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

No pre-requirements.

LEARNING OUTCOMES

CB1: Students have demonstrated possession and understanding of knowledge in an area of study that builds on the foundation of general secondary education, and is usually at a level that, while relying on advanced textbooks, also includes some aspects that involve knowledge from the cutting edge of their field of study

CB2: Students are able to apply their knowledge to their work or vocation in a professional manner and possess the competences usually demonstrated through the development and defence of arguments and problem solving within their field of study.

CG4: Ability to resolve problems with initiative, creativity and decision-making skills, in addition to communicating and transmitting the knowledge, abilities and skills that comprise the ethical and professional responsibilities of the Telecommunications Technical Engineer profession.

CG8: Knowledge and application of basic elements of economics and human resources management, project organization and planning, as well as telecommunications legislation, regulation, and standardization.

CG14: Requisite knowledge of the concept of business, and the institutional and legal framework of a business. Business organization and management.

RA1: Knowledge and understanding of the general fundamentals of engineering, scientific and mathematical principles, as well as those of their branch or specialty, including some knowledge at the forefront of their field.

RA5: Applications. Graduates will have the ability to apply their knowledge and understanding to solve problems, conduct research, and design engineering devices or processes. These skills include knowledge, use and limitations of materials, computer models, process engineering, equipment, practical work, technical literature and information sources. They must be aware of all the implications of engineering practice: ethical, environmental, commercial and industrial.

RA6: Generic competences. Graduates will have the generic skills necessary for engineering practice, and which are widely applicable. First, to work effectively, both individually and as a team, as well as to communicate effectively. In addition, demonstrate awareness of the responsibility of engineering practice, social and environmental impact, and commitment to professional ethics, responsibility and standards of engineering practice. They must also have knowledge of business and project management practices, as well as risk management and control, and understand their limitations. Finally, have the capacity for continuous learning.

OBJECTIVES

By the end of this content area, students will be able to have:

1. Knowledge and understanding of the scientific and mathematical principles underlying the branch of Telecommunication Technologies engineering.
2. Awareness of the wider multidisciplinary context of engineering, applying knowledge of mathematics, statistics, economics and other scientific fields to the analysis of business situations.
3. The ability to apply their knowledge and understanding to analyze engineering products, processes, and methods.
4. An understanding of methodologies, and an ability to use them in the analysis of business situations.

5. The ability to select and use appropriate methods in the management of the companies;
6. An awareness of the non-technical implications of engineering practice within the management of the companies.
7. Function effectively as an individual and as a member of a team.
8. Demonstrate awareness of the health, safety and legal issues and responsibilities of engineering practice, the impact of engineering solutions in a societal and environmental context, and commit to professional ethics, responsibilities, and norms of engineering practice.
9. Demonstrate an awareness of project management and business practices, such as risk and change management, and understand their limitations.

DESCRIPTION OF CONTENTS: PROGRAMME

1. The Firm: management and organization
 - 1.1. The entrepreneur and the firm. Strategic analysis
 - 1.2. Objective and strategies of the firm
 - 1.3. Organization design. Business functions
 - 1.4. Types of companies and legal forms. Corporate governance
2. Financial management
 - 2.1. Accounting and financial statements
 - 2.2. Firm's economic-financial analysis
 - 2.3. Investment and financing decisions
3. Operations management
 - 3.1. Production management
 - 3.2. Types of production systems
 - 3.3. Capacity management. Cost analysis and leveraged buyout
4. Marketing and sales management
 - 4.1. The marketing function
 - 4.2. Segmentation and positioning
 - 4.3. Marketing-mix decisions
5. Innovation and tech companies
 - 5.1. Concept and types of innovation
 - 5.2. Innovation Management. Strategies for the protection and exploitation of technology
 - 5.3. Tech companies. Tech ecosystems

LEARNING ACTIVITIES AND METHODOLOGY

Lectures, exercises, cases and assignments to be carried out by the students and discussed during the sessions, readings assigned by the instructor or identified by the students. In addition, the students carry out a group assignment that consists of the analysis of a company, applying the knowledge acquired in the course.

ASSESSMENT SYSTEM

% end-of-term-examination:	60
% of continuous assessment (assignments, laboratory, practicals...):	40

Continuous evaluation (40%).

Final exam (60%).

It is compulsory to achieve minimum 4 points over 10.

BASIC BIBLIOGRAPHY

- Navas López, J.E. y Guerras Martín, L.A. Fundamentals of strategic management, Thomson, 2018

ADDITIONAL BIBLIOGRAPHY

- B Erasmus, S Rudansky-Kloppers, J Strydom, JA Badenhorst-Weiss, y otros Introduction to Business Management, Oxford University Press, 2019
- Richard A. Brealey, Stewart C. Myers y Alan J. Marcus Fundamentals of corporate finance, McGraw-Hill, 2007
- Schilling, M. Strategic Management of Technological Innovation, McGraw Hill, 2017

BASIC ELECTRONIC RESOURCES

- Lecturers . Aula Global : [http://](http://aulaglobal.uc3m.es) <https://aulaglobal.uc3m.es>
- Navas López, J.E. y Guerras Martín, L.A. (2018) . Fundamentals of strategic management. Thomson:
https://bibliotecas.uc3m.es/permalink/f/63b8kq/34UC3M_ALMA51302368630004213