

Academic Year: (2021 / 2022)

Review date: 10-06-2021

Department assigned to the subject: Mechanical Engineering Department

Coordinating teacher: HERNANDEZ PAZ, VIRGINIA

Type: Basic Core ECTS Credits : 6.0

Year : 2 Semester : 2

Branch of knowledge: Engineering and Architecture

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

No prerequisites.

OBJECTIVES

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

1. knowledge and understanding of the scientific and mathematical principles underlying the branch of industrial 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 analyse 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. Business functions
 - 1.2. Objectives and strategies
 - 1.3. Corporate governance
 - 1.4. Types of companies and legal forms
 - 1.5. The role of engineering and engineers in Business Administration
2. Value creation: environment and competitive advantage
 - 2.1. Creating value in the company
 - 2.2. Analysis of the business environment and competition
 - 2.3. Firm's internal analysis and value chain
 - 2.4. Competitive strategy
 - 2.5. Business models
3. Financial management: firm's economic-financial analysis
 - 3.1. Accounting and financial information
 - 3.2. Financial statements: balance sheet and income statement
 - 3.3. Accounting entries. Financial accounting documents
 - 3.4. Preparation of the financial statements
 - 3.5. Economic and financial performance indicators
4. Financial management: investment and financing
 - 4.1. Investment decisions
 - 4.2. Time value of money

- 4.3. Evaluation of investment projects
- 4.4. Financing decisions
- 4.5. Internal and external sources of financing

- 5. Marketing and sales management
 - 5.1. The marketing Plan
 - 5.2. Segmentation and positioning
 - 5.3. Sales objectives. Demand estimation
 - 5.4. Marketing-mix decisions: product and price
 - 5.5. Marketing-mix decisions: place and promotion

- 6. People and team management
 - 6.1. People management
 - 6.2. Management skills: ¿hard¿ and ¿soft¿ skills
 - 6.3. Organization design
 - 6.4. Projects and teams management
 - 6.5. Agile methodologies: Kanban, Scrum

- 7. Innovation and business growth. Tech companies
 - 7.1. Types and models of innovation
 - 7.2. Innovation Management
 - 7.3. Tech companies. Tech ecosystems
 - 7.4. Growth strategies
 - 7.5. Accelerated growth using growth hacking tools

LEARNING ACTIVITIES AND METHODOLOGY

Lectures, exercises, business plan, 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 elaboration of a business plan, applying the knowledge acquired in the course.

ASSESSMENT SYSTEM

60% Final written exam. Minimum grade required in the final exam: 4/10
 40 % Continuous evaluation.

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

BASIC BIBLIOGRAPHY

- Erasmus, B., Rudansky-Kloppers, S., Strydom, J., Badenhorst-Weiss, JA. y otros Introduction to Business Management, Oxford University Press, 2019

ADDITIONAL BIBLIOGRAPHY

- Schilling, M. Strategic Management of Technological Innovation, McGraw Hill, 2017