Degree competences to which the subject contributes

Transversal:

1. TEAMWORK - Level 2. Contributing to the consolidation of a team by planning targets and working efficiently to favor communication, task assignment and cohesion.
2. ENTREPRENEURSHIP AND INNOVATION - Level 2. Taking initiatives that give rise to opportunities and to new products and solutions, doing so with a vision of process implementation and market understanding, and involving others in projects that have to be carried out.
3. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 2. Using strategies for preparing and giving oral presentations. Writing texts and documents whose content is coherent, well structured and free of spelling and grammatical errors.
4. SELF-DIRECTED LEARNING - Level 2: Completing set tasks based on the guidelines set by lecturers. Devoting the time needed to complete each task, including personal contributions and expanding on the recommended information sources.
5. EFFECTIVE USE OF INFORMATION RESOURCES - Level 1. Identifying information needs. Using collections, premises and services that are available for designing and executing simple searches that are suited to the topic.
Teaching methodology

Presentation-synthesis

In the sessions the teacher makes a summary of the topic. This presentation is intended as a guide work study students, with the function of introducing the item, propose material for study, clarify doubts and synthesis.

Each topic will be provided with:
- Power Point presentations used in class and other supplementary material will be available on the Digital Campus.
- Bibliography indicating specific location, preferring to material in electronic format.

Working activities and exercises

- Problems and Exercises for fixing the concepts introduced in the presentation.
- Approach of situations that allow the group builds a shared experience that will serve to advance in the understanding of content (eg, group dynamics, effective communication experiences.) They are based on experience different situations in which the experience serves as a study material.

Casework and articles

The work on cases or article will be based on questions raised by the professor. These works must to be delivered on date at the beginning of the session where will be discussed in class. The deadline to submit is specified in calendar. The teacher may show in the Digital Campus some of the best works delivered to be used as a reference.

The casework seeks to promote the following capabilities:
- Understanding of the situation presented and the ability to synthesize the most relevant issues
- Apply the concepts to practical cases.
- Capturing the complexity of real life situations, different points of view and various dimensions of the organizational and management issues
- Ability to exchange views and discuss, and ability to learn from the debate

Practices

Practices are held in groups of up to five members, to be established at the beginning of the course and will be maintained. Throughout the course there will be three practices where there are problems which will need to apply knowledge which is being acquired. These practices serve as the backbone of learning, following the principles of project-based learning. For each practice it will provided a dossier that shall include the objectives, description, date of delivery, and criteria assessment. Each practice will consist of a report and a presentation at pp.

Oral presentations

Each student will present oral argument at least once during the term. The days of presentation are announced at the beginning of the course. The day of the presentation the teacher a designate the groups that will carried out the presentation.

Small group and individual tutoring

The teacher will follow up the student progress and supervise their practices and work, providing feedback on their progress, the degree of achievement of the objectives of their work, giving directions for improvement.
Learning objectives of the subject

Marketing:
1. Analyze, interpret and explain marketing functions within the practice of the profession of product design engineer
   1.1 Identify, from reading, news or practical cases, the elements of the environment that influence marketing decisions.
   1.2 Understand the interactions between marketing and production decisions and their influence on the professional practice of the product design engineering function.
2. Relate the information of the environment and the marketing that conditions the decisions of the strategic marketing.
   2.1 Interpreting market information of a company
   2.2 From real technical information, be able to choose the most appropriate marketing strategy.
   2.3 Know and understand the most common models of strategic marketing and its application.
   2.4 Develop, based on the analysis and diagnosis of information, the most appropriate strategy of business marketing to specific situations that will be raised to students.
3. Know and understand the interaction between the function of product design engineering and the marketing of the company.
   3.1 Identify those aspects of marketing where product design engineering has more influence.
   3.2 Recognize and learn to manage the areas of the marketing mix where the function of product design engineering plays a more prominent role.

Production:
4.1 Know the function, costs and production process of the company.
4.2 Use techniques and tools to design a manufacturing plan at different levels.
4.3 Use basic techniques and tools for quality and safety management.
# Content

<table>
<thead>
<tr>
<th>MQ_1 Integration of marketing and production decisions</th>
<th>Learning time: 18h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Theory classes: 4h</td>
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<tr>
<td></td>
<td>Practical classes: 0h</td>
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<tr>
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<td>Laboratory classes: 0h</td>
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<td></td>
<td>Guided activities: 0h</td>
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<tr>
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<td>Self study: 14h</td>
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</tbody>
</table>

**Description:**
Content

1.1. Marketing / production interaction.

1.2. Product and marketing engineering interaction

**Related activities:**
- Analyze a current text, identifying its impact on the interaction of marketing and production functions. Assess the different opinions and trends, and express the personal opinion.

**Specific objectives:**
- Understand the interrelation of the marketing and production functions and variables that affect the whole of the dynamics of the company, and how this dynamic influences the business decisions and their results.

<table>
<thead>
<tr>
<th>MQ_2 Strategic marketing</th>
<th>Learning time: 32h</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Theory classes: 8h</td>
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<tr>
<td></td>
<td>Practical classes: 0h</td>
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<tr>
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<td>Laboratory classes: 6h</td>
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<td>Guided activities: 0h</td>
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<tr>
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<td>Self study: 18h</td>
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</tbody>
</table>

**Description:**
L1.2. Evolution of marketing. Current trends

1.3. Market-oriented marketing

1.4. Evolution of marketing mix

**Related activities:**
- Read a text related to the evolution of marketing and its current trends in the world of the company.
- Discuss in groups and express different points of view.
- Practice on real data of a company.
- Study the market environment of a practical case that will be presented to the students.

**Specific objectives:**
- Understand how marketing has evolved throughout its history, what are its most important phases and what are the current trends
### Mòdul MQ_3 Models de màrqueting estratègic

<table>
<thead>
<tr>
<th><strong>Learning time:</strong> 39h</th>
</tr>
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<tbody>
<tr>
<td>Theory classes: 10h</td>
</tr>
<tr>
<td>Practical classes: 0h</td>
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<tr>
<td>Laboratory classes: 8h</td>
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<tr>
<td>Guided activities: 0h</td>
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<tr>
<td>Self study : 21h</td>
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</tbody>
</table>

#### Description:
- 3.1. Generic marketing strategies
- 3.2. Matrices for analysis and diagnosis
- 3.3. Strategic matrices

#### Related activities:
Analyze the market variables that affect a practical case that will be presented to the students.
Apply three matrices of analysis, diagnosis and strategies according to the student's own criteria.

#### Specific objectives:
Know the main strategic marketing matrices.

### MQ_4 Product design and marketing

<table>
<thead>
<tr>
<th><strong>Learning time:</strong> 39h</th>
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<tbody>
<tr>
<td>Theory classes: 10h</td>
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<tr>
<td>Practical classes: 0h</td>
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<tr>
<td>Laboratory classes: 8h</td>
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<tr>
<td>Guided activities: 0h</td>
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<tr>
<td>Self study : 21h</td>
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</table>

#### Description:
- 4.1. Mix of marketing and product design.
- 4.2. Strategies for the creation of new products.
- 4.3. Product redesign.
- 4.4. Innovation strategies.
- 4.5. The visibility vectors of the product.
- 4.6. Packaging in relation to the product.
- 4.7. The presence of the product at the place of sale.

#### Related activities:
The statement of a case will be delivered and all the necessary data with which the students can apply the theoretical contents within the framework of a marketing Mix.

#### Specific objectives:
Offer a perspective of the impact of the product design engineering function in the marketing mix decisions. Recognize, understand and learn how to manage those specific functions of product design engineering that have a greater impact on the Marketing mix of a company.
### PRO_5 Organization Of the economic activity

<table>
<thead>
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<th>Learning time: 1h</th>
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<tr>
<td>Theory classes: 1h</td>
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</table>

**Description:**

5.1. Definition of processes.
5.2. Conceptual classification of processes
   - Operating processes.
   - Support processes
   - Strategic processes.
5.3. Internal Value System.
5.4. External Value System.
5.5. Diagramming? Of processes.
5.6. Added value and waste

**Specific objectives:**
Understanding how the needs of customers are based on the processes that maximize the VA.

### PRO_6 Resources

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<th>Learning time: 1h</th>
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<tbody>
<tr>
<td>Theory classes: 1h</td>
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**Description:**

- Types of processes
- Production time, delivery time, performance and quality.
- Calculation of the number of resources required
- How to dispose the resources in the most optimal way
- Stock and waiting calculations.
- Creation of layouts.
- Methodology of the 5S.

**Specific objectives:**
Once the processes are identified, choose them and have them in the most efficient and flexible way.

### PRO_7 Total Quality

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<th>Learning time: 1h</th>
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<tbody>
<tr>
<td>Theory classes: 1h</td>
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</table>

**Description:**

- Model Jidoka.
- AMFE of processes.
- A3 Report.

**Specific objectives:**
Understanding how modern quality is based on making it always good, instead of controlling, and learning from problems, instead of simply correcting them.
### Contents:

8.1. Organización del puesto de trabajo.
- 5’S
- Medidas visuales

8.2. Jidoka
- Casos de Jidoka
- Definición

8.3. Calidad
- ‘En qué punto del proceso se debe controlar y verificar la calidad?
- Calidad en el origen
- Definición de calidad.

### Description:

#### Contents:

9.1. Quality definition
- Efficient process management
- Definition
- Implementation stages
- Models

9.2. Implementation of quality in productive processes
- Product planning
- Product design
- Design processes
- Control of production
- Product control

9.3. Modal Analysis of faults and effects

9.4. Total quality models
- EFQM

9.5. Tools for the analysis and improvement of processes
- Ishikawa
- Pareto diagram
- Histogram
- Dispersion

9.6. The statistical control of processes. SPC.
- Control charts
- Calculation of the capacity of a process
In the evaluation of the student will be considered both the work done in group and the achievement of the contents assessed in individual written tests (exams). These exams will consist of one part of short questions or test type, and another of open questions or development. The students will also have a note obtained from the oral presentation of the practice, and one according to their attendance and contributions in the theoretical and practical classes.

**Final Grade=** Marketing Mark $\times 0.5 +$ Production Mark $\times 0.5$

**Marketing Mark=** Exams Mark $\times 0.5 +$ Assignments mark $\times 0.4 +$ Oral presentation and participation mark $\times 0.1$

**Production Mark=** Exams Mark $\times 0.5 +$ Assignments mark $\times 0.4 +$ Oral presentation and participation mark $\times 0.1$

Students who may be eligible for reevaluation according to academic regulations may improve on a written exam only the corresponding mark "Exams Mark", which has a weight of 50% on the final grade of the subject, as indicated in the formula above.

### Bibliography

**Basic:**