

**COURSE DATA****Data Subject**

<b>Code</b>	36430
<b>Name</b>	Business and data science
<b>Cycle</b>	Grade
<b>ECTS Credits</b>	6.0
<b>Academic year</b>	2023 - 2024

**Study (s)**

<b>Degree</b>	<b>Center</b>	<b>Acad. year</b>	<b>Period</b>
1406 - Degree in Data Science	School of Engineering	3	First term

**Subject-matter**

<b>Degree</b>	<b>Subject-matter</b>	<b>Character</b>
1406 - Degree in Data Science	10 - Economics, Business and Management	Obligatory

**Coordination**

<b>Name</b>	<b>Department</b>
FERNANDEZ MESA, ANA ISABEL	105 - Business Administration 'Juan José Renau Piqueras'
MIQUEL ROMERO, MARIA JOSE	43 - Marketing and Market Research

**SUMMARY**

*Business and data science* is a basic course, taught in the first semester of the third year of the Degree in Data Science. It is part of the 'Business Organization' and 'Marketing and Market Research' areas, and it comprises 6 ECTS credits.

To meet the requirements of the degree, it is proposed a program that provides the student the basic knowledge necessary for the study of current approaches to the Business Management, through a comprehensive and inclusive approach to the analysis and strategic business decisions.

Through this system of management, those responsible for leading companies try to guide the direction and development of those, seeking a balance between development and long-term survival, and profitability and the achievement of short term objectives.



Knowing the process of formulation and implementation of the business strategy will allow the future expert in data science to know the information needs of decision makers, from high-level executives to those in other management positions, by appropriate processing of the data or producing reports that facilitate the interpretation of information generated inside or outside the company. The aim is to facilitate decision making by offering key indicators for the company's organisation and performance, presented in the form of alerts, graphs, tables, etc., and thus contribute to the difficult task of simplifying the decision-making process.

In addition, the knowledge will be taught to know what the marketing function of a company is and to make and implement the decisions that allow the development of the company's marketing strategy and plan.

In the analytical part, the subject will reveal the need and composition of a company's Marketing Information System, the market research process, market segmentation and the company's positioning, develop consumer behavior. Based on this, the product and service strategy, the pricing, distribution and communication strategy will be designed.

## PREVIOUS KNOWLEDGE

### Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

### Other requirements

## OUTCOMES

### 1406 - Degree in Data Science

- (CG04) Ability to work in a multidisciplinary group in a multilingual environment and to communicate, orally and in writing, knowledge, procedures, results and ideas related to data science.
- (CE03) Ability to solve classification, modelling, segmentation and prediction problems from a set of data.
- (CE05) To understand the most relevant fields of application of data science and understand how data science is used to base and perform decision-making based on data
- (CE12) Ability to design and start solutions based on data analysis in the field of medicine and business, taking into account the specific requirements of this type of use cases.
- (CB4) Students must be able to communicate information, ideas, problems and solutions to both expert and lay audiences.

## LEARNING OUTCOMES

- Apply decision making techniques to the business environment. (CB4, CG4, CE03, CE05, CE12)



- Recognize consumption patterns through data analysis. (CB4, CE03, CE12)
- To know marketing techniques aimed at the relationship with the consumer. (CB4, CE03, CE05, CE12)
- Measure the efficiency and effectiveness of different marketing strategies (CE03, CE05, CE12)

## DESCRIPTION OF CONTENTS

### 1. Business fundamentals

- 1.1. Concept of company. Definition and typology
- 1.2. The entrepreneur: ownership and management
- 1.3. Objective and design of the target system
- 1.4. Decision-making and stakeholders

### 2. Basic functions of the company

- 2.1. Production
- 2.2. Marketing
- 2.3. Logistics
- 2.4. HR
- 2.5. Investment-financing
- 2.6. R&D&I
- 2.7. Information systems in the company

### 3. Strategic diagnosis

- 3.1. External analysis. The environment
- 3.2. Internal analysis
- 3.3. SWOT and CAME

### 4. Strategy design

- 4.1. Corporate strategies
  - 4.1.1. Direction of development
  - 4.1.2. Method of development
- 4.2. Competitive strategies



## **5. Strategy Implementation**

- 5.1. Strategic direction process
- 5.2. Strategic planning
- 5.3. Strategic control (balanced scorecard)

## **6. Fundamentals of marketing**

- 6.1. Marketing management
- 6.2. Marketing information system
- 6.3. Consumer behavior

## **7. Marketing strategy**

- 7.1. Social orientation and value management
- 7.2. Design of a consumer-oriented marketing strategy
- 7.3. Segmentation and selection
- 7.4. Differentiation and positioning

## **8. Market and consumers analysis**

- 8.1. Internal data
- 8.2. External secondary data (big data)
- 8.3. Marketing research

## **9. Marketing decisions**

- 9.1. Marketing mix (goods and services)
- 9.2. Product decisions
- 9.3. Pricing decisions
- 9.4. Place decisions
- 9.5. Promotion decisions

## **10. Marketing implementation**

- 10.1. Marketing plan
- 10.2. Evaluation and control

**WORKLOAD**

ACTIVITY	Hours	% To be attended
Theory classes	32,00	100
Laboratory practices	20,00	100
Classroom practices	8,00	100
Development of group work	3,00	0
Development of individual work	6,00	0
Study and independent work	12,00	0
Readings supplementary material	1,00	0
Preparation of evaluation activities	10,00	0
Preparing lectures	14,00	0
Preparation of practical classes and problem	35,00	0
Resolution of case studies	9,00	0
<b>TOTAL</b>	<b>150,00</b>	

**TEACHING METHODOLOGY**

Theoretical classes will be developed through master classes. However, the active participation of the student will be encouraged and valued very positively. For the study of the subject, students will have to use, the recommended bibliography within the analytical program. (CE12)

Complementary materials will be offered through the virtual classroom, such as videos, press, conferences or websites related to the subject. Students can be asked about their contents throughout the class. (CB4)

Problems and laboratory classes, have as objective the consolidation and practical application of the techniques and tools introduced in the theory, through the resolution of cases or mini-cases, or the realization of teamwork in different formats, using different teaching methodologies. For a correct use of them, the students will have to organize themselves in teams and solve the cases or exercises that will be raised throughout the course, to later discuss the solutions in the classroom. (CB4, CG4, CE03, CE05, CE12)

In particular, laboratories will be worked from the perspective of a CEO who must make decisions (CE05, CE12).

**EVALUATION**





Theory – Summary test (50% of the final mark). Written test can combine both objective tests (multiple choice) and short-answer questions, covering both theoretical and practical contents. Questions will most likely require the student to relate different concepts studied in the subject. (CB4, CE3, CE5)

A minimum mark of 5 out of 10 points in the written test is **required** so that the continuous assessment mark can be added

Problems **S3** (CB4, CG4, CE3, CE5) and Laboratories **S2** (CB4, CG4, CE3, CE5, CE12) – Continuous assessment (50% of the final mark). The lecturer will provide regular information on the progress made by the students, both individually and in groups, as well as the areas for improvement, and the mark obtained in the activities carried out so far. Throughout the course, the lecturer will ask the students to hand in practical cases and/or take partial tests on practical cases which will be carried out individually and/or in groups. Other items of assessment include participation in the different activities proposed by the lecturer, such as the analysis and discussion of readings or videos.

These activities, designed to be presented or discussed in class, contribute up to 5 points (20% problems i 30% laboratories)

In the second call, the activities related to problems and laboratories, will be able to recover through a synthesis exam based on the practical activities carried out during the course.

In any case, the evaluation system will be governed by the Regulations of Evaluation and Qualification of the University of Valencia for bachelor's and master's degrees  
(<https://webges.uv.es/uvTaeWeb/MuestraInformacionEdictoPublicoFrontAction.do?accion=inicio&idEdictoSeleccionado=5639>)

## REFERENCES

### Basic

- Guerras, L.A. y Navas, J.E. (2015): La Dirección Estratégica de la Empresa. Teoría y Aplicaciones, Thompson-Cívitas, Madrid, 5ª edición.
- Iborra, M.; Dasí, A.; Dolz, C. y Ferrer, C. (2014): Fundamentos de Dirección de Empresas. Conceptos y habilidades directivas. 2ª Edición. Thomson, Madrid.
- Kotler, P. y Armstrong, G. (2018). Principios de Marketing. 17ª edición. Pearson
- Sainz de Vicuña, J.M. (2018). Plan de marketing en la práctica. 22ª edición. ESIC

### Additional

- Kotler, P. y Keller, K. (2016). Dirección de Marketing. 5ª edición. Pearson.



- Santesmases, M. (2012). Marketing, conceptos y estrategias. 6ª edición. Pirámide.
- Thomson. Laudon, K.C. y Laudon, J.P. (2012). Sistemas de información gerencial. Prentice Hall, 12ª edición
- Johnson, G, Scholes, K. y Whittington, R. (2006): Dirección Estratégica. Prentice Hall, Madrid, 7ª edición.