

## 1. OVERVIEW

<b>Subject area</b>	Workshop in Decision-Making
<b>Degree</b>	Bachelor's Degree in Business Analytics
<b>School/Faculty</b>	Social Sciences and Communication
<b>Year</b>	1st
<b>ECTS</b>	6
<b>Type</b>	Compulsory
<b>Language(s)</b>	Spanish
<b>Delivery Mode</b>	On campus
<b>Semester</b>	2nd
<b>Year</b>	2024-25
<b>Coordinating professor</b>	Maicol Ochoa

## 2. INTRODUCTION

Workshop in Decision-Making is a subject area that covers the fundamental aspects to develop a career in data analytics. Students have been provided with basic knowledge of business management, programming, mathematics, marketing, and accounting and finance, which come together in this subject area to be implemented practically. It is for this reason that, first of all, students will understand the importance of information in decision-making in different business areas and the relevance of the information sources.

In short, students will study the different techniques necessary for carrying out market research, obtaining both primary and secondary sources. Results, various applications and practical recommendations will stem from the information obtained, with a report detailing the decision-making process, together with an executive summary for its specific display.

## 3. SKILLS AND LEARNING OUTCOMES

### Basic skills (CB, by its acronym in Spanish):

- CB2 - Students can apply their knowledge to their work or vocation in a professional manner and possess the skills which are usually evident through the forming and defending of opinions and resolving problems within their study area.
- CB3 - Students have the ability to gather and interpret relevant data, usually within their study area, to form opinions which include reflecting on relevant social, scientific or ethical matters.
- CB4 - Students can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.

### Cross-curricular skills (CT, by the acronym in Spanish):

- CT2 - Independent learning: A range of skills for choosing research, analysis, evaluation and information management strategies from different sources, as well as to learn and put into practice what has been independently learnt.
- CT8 - Entrepreneurial spirit: Ability to take on and carry out activities that generate new opportunities, anticipate problems or bring about improvements.

**Specific skills (CE, by the acronym in Spanish):**

- CE01 - Ability to know and understand the concept of business and entrepreneur and their role in a market economy.
- CE19 - Ability to make business decisions based on the objective data which lay the foundations for those decisions.
- CE20 - Ability to develop a study plan of business variables and indicators.
- CE22 - Ability to select and apply the most appropriate analytical tools to each situation of the company.
- CE23 - Ability to select, parameterize, and analyse metrics related to information sources according to each area (marketing, finance, etc.)
- CE24 - Ability to identify the information needs, depending on the set objectives.
- CE29 - Ability to ask the right questions in relation to the expected knowledge objective, so that they can be translated into the appropriate queries that must then be formulated on the data storage system.

**Learning outcomes (RA, by the acronym in Spanish):**

- RA1: Apply the techniques necessary to carry out market research.
- RA 2: Understand the importance of information for decision-making and select the appropriate sources for each information objective.
- RA 3: Write reports adapted to the study's requirements.

The following table shows how the skills developed in the subject area relate to the intended learning outcomes:

Skills	Learning outcomes (RA, by the acronym in Spanish)
CB3, CE20, CE22, CE23, CE29	RA1: Apply the techniques necessary to carry out market research.
CB2, CT8, CE01, CE19, CE29	RA 2: Understand the importance of information for decision-making and select the appropriate sources for each information objective.
CB2, CB4, CT2, CE24	RA 3: Write reports adapted to the study's requirements.

## 4. CONTENTS

The subject is organized into six learning units, which, in turn, are divided into themes:

**Unit 1: Fundamentals of Decision Theory:**

What is decision theory?

Branches of decision theory.

Elements of a decision problem.

Classification of decision-making processes.

Phases of a decision problem.

**Unit 2:** Classical Criteria in Decision Theory:

Wald's criteria pessimistic and optimistic.

Criterion of Savage.

Laplace's criterion.

Hurwicz's criterion.

**Unit 3:** Decision in a risky environment:

General approach to the decision problem in a risky environment.

The expected value criterion.

Valuation of perfect information.

Principles of rationality: simple and stochastic dominance.

Risk function.

Medium risk.

**Unit 4:** Decision Trees:

Decision tree definition.

Resolution of decision trees.

Partial Perfect Information Valuation.

**Unit 5:** Bayesian Methodology:

A priori analysis.

A posteriori analysis.

Assessment of information.

**Unit 6:** Utility Theory:

Expected utility theory.

Risk reduction.

Behavioral economics.

## 5. TEACHING-LEARNING METHODS

The types of teaching-learning methods are as follows:

- Lecture / Web conference
- Problem-based learning
- Workshop-based learning

## 6. LEARNING ACTIVITIES

The types of learning activities, plus the amount of time spent on each activity, are as follows:

Learning activity	Number of hours
Asynchronous	10
Asynchronous lectures	10
Case studies	20
Problem-solving	10
Oral presentations	10
Writing reports and papers	25
Independent working	25
Workshops and/or laboratory work	40
<b>TOTAL</b>	<b>150 h</b>

## 7. ASSESSMENT

The assessment systems, plus their weighting in the final grade for the subject area, are as follows:

Assessment system	Weighting
On-campus theory exam	50
Case Study & Reading Control	20

On the Virtual Campus, when you open the subject area, you can see all the details of your assessable tasks and the deadlines and assessment procedures for each task.

### 7.1. Ordinary exam period

To pass the subject area in the ordinary exam period you must obtain a grade higher than or equal to 5.0 out of 10.0 in the final grade (weighted average) for the subject area.

In any case, it is necessary that you obtain a grade higher than or equal to 5.0 in the final exam, so that it can be averaged with the rest of the tasks.

### 7.2. Extraordinary exam period (resits)

To pass the subject area in the ordinary exam period you must obtain a grade higher than or equal to 5.0 out of 10.0 in the final grade (weighted average) for the subject area.

In any case, it is necessary that you obtain a grade higher than or equal to 5.0 in the final exam, so that it can be averaged with the rest of the tasks.

Tasks not passed in the ordinary exam period, or those not delivered, must now be delivered after having received the relevant corrections to them by the teacher.

## 8. BIBLIOGRAPHY

The recommended bibliography is indicated below:

1. Bergman, D.; Cire, A. A.; van Hoes, W. y Hooker, J. (2016) Decision Diagrams for Optimization. Springer International Publishing, Ebook.
2. Dixit, A. K. (2015) Games of strategy. Nueva York: W.W. Norton & Company.
3. Papathanaslou, J.; Ploskas, N. y Linden, I. (2016) Real-World Decision Support Systems : Case Studies. Springer International Publishing, Ebook.
4. Murnighan, J.K. y Mowen, J.C. (2001) The Art of High-Stakes Decision-Making Tough Calls in a Speed- Driven World. Nueva York: John Wiley & Sons.
5. Rabadán Gomez, A.B; Cid Cid, A. B y Leguey, S. (2020) Métodos de decisión empresarial. Ediciones Paraninfo.

## 9. DIVERSITY AWARENESS UNIT

Students with special educational needs:

To ensure equal opportunities, curricular adaptations or adjustments for students with special educational needs will be outlined by the Diversity Awareness Unit (UAD, Spanish acronym).

As an essential requirement, students with special educational needs must obtain a report about the curricular adaptations/adjustments from the Diversity Awareness Unit by contacting [unidad.diversidad@universidadeuropea.es](mailto:unidad.diversidad@universidadeuropea.es) at the beginning of each semester.

## **10. STUDENT SATISFACTION SURVEYS**

Your opinion matters!

Universidad Europea encourages you to complete our satisfaction surveys to identify strengths and areas for improvement for staff, the degree and the learning process.

These surveys will be available in the surveys area of your virtual campus or by email.

Your opinion is essential to improve the quality of the degree.

Many thanks for taking part.

