

## 1. DATOS BÁSICOS

<b>Asignatura</b>	Complex Problem Solving
<b>Titulación</b>	Bachelors in Business Analytics
<b>Escuela/ Facultad</b>	Social Sciences and Communication
<b>Curso</b>	3º
<b>ECTS</b>	3
<b>Carácter</b>	Compulsotry
<b>Idioma/s</b>	English
<b>Modalidad</b>	On site
<b>Semestre</b>	2º (6ª)
<b>Curso académico</b>	2024/2025
<b>Docente coordinador</b>	Asaf Levi

## 2. PRESENTATION

Complex problem resolution is a third year course which focuses on the different problems companies must face that have a high degree of difficulty in finding a unique solution. Considering there are multiple alternatives and there is a high degree of uncertainty inherently to each of those complex problems, several tools and methodologies are studied to evaluate diverse approaches to find an adequate solution.

During this course, students will learn how to identify a complex problem, which are the main factors that determine its uncertainty, potential outcomes of them, together with techniques that can be helpful in finding adequate solutions to minimize the impact on the firm, or contribute to enhance positive outcomes.

## 3. COMPETENCIES AND LEARNING OUTCOMES

### Core competencies:

- CB4 - That students can transmit information, ideas, problems and solutions to both specialized and non-specialized audiences
- CB5 - That students have developed those learning skills necessary to undertake further studies with a high degree of autonomy

### Transversal competences:

- CT5 - Analysis and problem solving: Be able to critically evaluate information, break down complex situations into their constituent parts, recognize patterns, and consider other alternatives, approaches and perspectives to find optimal solutions and efficient negotiations.

**Specific competences:**

- CE18 - Capacity to solve complex problems in situations that require information search in the different functional areas of the company.
- CE19 - Capacity to make business decisions based on objective data with which to base these decisions.
- CE25 - Capacity to explore new sources of information and ways of applying solutions in different situations and sectors
- CE26 - Critical spirit and objectivity to question the data or truths assumed from the above data
- CE27 - Ability to adapt to an environment with an excess of information and data ("infoxication"), without losing sight of the objectives
- CE29 - Capacity to ask the right questions, in relation to the expected knowledge objective, so that they are translated into the appropriate "queries" that must be formulated to the data storage system
- CE31 - Capacity to manage uncertainty due to constantly changing sources of information

**Learning outcomes:**

- LA1. Focus on complex problems correctly
- LA2. Apply analysis and problem solving methodologies.
- LA3. Take into account different points of view in the approach to a problem.
- LA4. Evaluate the impact and consequences of decisions.

The following table shows the relationship between the competencies developed during the course and the learning outcomes pursued:

Competences	Learning outcomes:

## 4. CONTENT

Introduction: Complex Problem Resolution

Problem solving methodologies

Impact of decision analysis

Division of the problem and analysis of relationships among elements

Scenarios

Preview and conflict management

## 5. TEACHING-LEARNING METHODOLOGIES

The types of teaching-learning methodologies used are indicated below:

- Seminars and lectures
- Challenge Based Learning
- Problem resolution

## 6. LEARNING ACTIVITIES

Listed below are the types of learning activities and the number of hours the student will spend on each one:

Actividad formativa	Número de horas
Seminars and lectures	16 h
Asynchronous Seminars and lectures	4 h
Problem resolution	15 h
Oral presentations	10 h
Preparation reports and writings	10 h
Self-paced autonomous learning	20 h
<b>TOTAL</b>	<b>75 h</b>

## 7. ASSESSMENT

Listed below are the assessment systems used and the weight each one carries towards the final course grade:

Assessment system	Weight
Knowledge tests	40%
Written reports	25%
Oral presentations	10%

When you access the course on the Campus Virtual, you'll find a description of the assessment activities you have to complete, as well as the delivery deadline and assessment procedure for each one.

### 7.1. First exam period

To pass the course in the first exam period, you must obtain a final course grade of at least 5 out of 10 (weighted average).

In any case, you will need to obtain a grade of at least 5.0 in the final exam in order for it to count towards the final grade along with all the grades corresponding to the other activities..

## 7.2. Second exam period

To pass the course in the second exam period, you must obtain a final grade of at least 5 out of 10 (weighted average).

In any case, you will need to obtain a grade of at 4.0 in the final exam in order for it to count towards the final grade along with all the grades corresponding to the other activities.

The student must deliver the activities not successfully completed in the first exam period after having received the corresponding corrections from the professor, or those that were not delivered in the first place.

## 8. SCHEDULE

This table shows the delivery deadline for each assessable activity in the course:

Assessable activities	Deadline
Assignment 1	Week 3-4
Assignment 2	Week 7-8
Assignment 3	Week 11
Final Case Study	Week 13
Knowledge Evaluation	Week 17

This schedule may be subject to changes for logistical reasons relating to the activities. The student will be notified of any change as and when appropriate.

## 9. BIBLIOGRAPHY

- Angeli, C. (2013). Using educational data mining methods to assess field-dependent and fieldindependent learners' complex problem solving. Educational Technology Research and Development.
- 61. 10.1007/s11423-013-9298-1.
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- Lahtinen, M.; Sanna, L. & Reijula, K. (2008). Multiprofessional teams resolving indoor-air problems - Emphasis on the psychosocial perspective. SJWEH Supplements. 34.
- Taguchi, C. (1986). Introduction to quality engineering. Productivity Organisation.

- Conn, C., & McLean, R. (2019). Bulletproof Problem Solving: The One Skill that Changes Everything. John Wiley & Sons.
- Hubbard, D. W. (2014). How to measure anything: Finding the value of intangibles in business. John Wiley & Sons.
- Mitchell, M. (2009). Complexity: A guided tour. Oxford university press

## 10. EDUCATIONAL GUIDANCE AND DIVERSITY UNIT

From the Educational Guidance and Diversity Unit we offer support to our students throughout their university life to help them reach their academic achievements. Other main actions are the students inclusions with specific educational needs, universal accessibility on the different campuses of the university and equal opportunities.

From this unit we offer to our students:

1. Accompaniment and follow-up by means of counselling and personalized plans for students who need to improve their academic performance.
2. In terms of attention to diversity, non-significant curricular adjustments are made in terms of methodology and assessment for those students with specific educational needs, pursuing an equal opportunities for all students.
3. We offer students different extracurricular resources to develop different competences that will encourage their personal and professional development.
4. Vocational guidance through the provision of tools and counselling to students with vocational doubts or who believe they have made a mistake in their choice of degree.

Students in need of educational support can write to us at:

[orientacioneducativa@universidadeuropea.es](mailto:orientacioneducativa@universidadeuropea.es)

## 11. ONLINE SURVEYS

Your opinion matters!

The Universidad Europea encourages you to participate in several surveys which help identify the strengths and areas we need to improve regarding professors, degree programs and the teaching-learning process.

The surveys will be made available in the “surveys” section in virtual campus or via e-mail.

Your assessment is necessary for us to improve.

Thank you very much for your participation