

**1. General information****Course:** OPERATIONAL RESEARCH FOR BUSINESS**Type:** ELECTIVE**Degree:** 318 - UNDERGRADUATE DEGREE IN BUSINESS MANAGEMENT AND ADMINISTRATION (TO)**Center:** 6 - FACULTY OF LAW AND SOCIAL SCIENCES**Year:** 4**Main language:** Spanish**Use of additional languages:****Web site:****Code:** 54337**ECTS credits:** 4.5**Academic year:** 2023-24**Group(s):** 40 42 43**Duration:** First semester**Second language:** English**English Friendly:** Y**Bilingual:** N**Lecturer:** ALFREDO RODRIGUEZ SANCHEZ - Group(s): 40 42 43

Building/Office	Department	Phone number	Email	Office hours
San Pedro / Desp.empresas / Tercera planta	ANÁLISIS ECONÓMICO Y FINANZAS	Teams	alfredo.rodriguez@uclm.es	

2. Pre-Requisites

Not established

3. Justification in the curriculum, relation to other subjects and to the profession

Not established

4. Degree competences achieved in this course**Course competences**

Code	Description
E07	Understand the economic environment as a result and application of theoretical or formal representations on how the economy works. To do so, it will be necessary to be able to understand and use common handbooks, as well as articles and, in general, leading edge bibliography in the core subjects of the curriculum.
E08	Ability to produce financial information, relevant to the decision-making process.
G01	Possession of the skills needed for continuous, self-led, independent learning, which will allow students to develop the learning abilities needed to undertake further study with a high degree of independence.
G03	Develop oral and written communication skills in order to prepare reports, research projects and business projects and defend them before any commission or group of professionals (specialised or non-specialised) in more than one language, by collecting relevant evidence and interpreting it appropriately so as to reach conclusions.
G04	Ability to use and develop information and communication technologies and to apply them to the corresponding business department by using specific programmes for these business areas.

5. Objectives or Learning Outcomes**Course learning outcomes****Description**

Know the tools and methods for quantitative analysis of the company and its environment, including business decision making models and economic forecasting models.

Search for information, its analysis, interpretation, synthesis and transmission.

To know the models and techniques of analysis of the economic and legal environment that companies currently face, with special attention to the search for opportunities and the anticipation of possible changes.

Additional outcomes**6. Units / Contents****Unit 1:****Unit 2:****Unit 3:****Unit 4:****Unit 5:****7. Activities, Units/Modules and Methodology**

Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	Description
Class Attendance (theory) [ON-SITE]	Lectures	E07 E08	0.7	17.5	N	-	
Class Attendance (practical) [ON-SITE]	Problem solving and exercises	E07 E08 G03 G04	0.6	15	N	-	

Writing of reports or projects [OFF-SITE]	Guided or supervised work	E07 E08 G01	0.5	12.5	Y	N	
Problem solving and/or case studies [ON-SITE]	Guided or supervised work	E07 E08 G03 G04	0.35	8.75	Y	N	
Writing of reports or projects [OFF-SITE]	Cooperative / Collaborative Learning	E07 E08 G01	0.2	5	Y	N	
Problem solving and/or case studies [ON-SITE]	Cooperative / Collaborative Learning	E07 E08 G03 G04	0.05	1.25	Y	N	
Study and Exam Preparation [OFF-SITE]	Self-study	E07 E08 G01	2	50	N	-	
Final test [ON-SITE]	Assessment tests	E07 E08 G03 G04	0.1	2.5	Y	Y	
Total:			4.5	112.5			
Total credits of in-class work: 1.8			Total class time hours: 45				
Total credits of out of class work: 2.7			Total hours of out of class work: 67.5				

As: Assessable training activity

Com: Training activity of compulsory overcoming (It will be essential to overcome both continuous and non-continuous assessment).

8. Evaluation criteria and Grading System			
Evaluation System	Continuous assessment	Non-continuous evaluation*	Description
Theoretical papers assessment	40.00%	0.00%	
Practicum and practical activities reports assessment	30.00%	0.00%	
Final test	30.00%	100.00%	
Total:	100.00%	100.00%	

According to art. 4 of the UCLM Student Evaluation Regulations, it must be provided to students who cannot regularly attend face-to-face training activities the passing of the subject, having the right (art. 12.2) to be globally graded, in 2 annual calls per subject, an ordinary and an extraordinary one (evaluating 100% of the competences).

9. Assignments, course calendar and important dates	
Not related to the syllabus/contents	
Hours	hours
Class Attendance (theory) [PRESENCIAL][Lectures]	17.5
Class Attendance (practical) [PRESENCIAL][Problem solving and exercises]	15
Writing of reports or projects [AUTÓNOMA][Guided or supervised work]	12.5
Problem solving and/or case studies [PRESENCIAL][Guided or supervised work]	8.75
Writing of reports or projects [AUTÓNOMA][Cooperative / Collaborative Learning]	5
Problem solving and/or case studies [PRESENCIAL][Cooperative / Collaborative Learning]	1.25
Study and Exam Preparation [AUTÓNOMA][Self-study]	50
Final test [PRESENCIAL][Assessment tests]	2.5
Global activity	
Activities	hours
Final test [PRESENCIAL][Assessment tests]	2.5
Class Attendance (theory) [PRESENCIAL][Lectures]	17.5
Class Attendance (practical) [PRESENCIAL][Problem solving and exercises]	15
Writing of reports or projects [AUTÓNOMA][Guided or supervised work]	12.5
Problem solving and/or case studies [PRESENCIAL][Guided or supervised work]	8.75
Writing of reports or projects [AUTÓNOMA][Cooperative / Collaborative Learning]	5
Problem solving and/or case studies [PRESENCIAL][Cooperative / Collaborative Learning]	1.25
Study and Exam Preparation [AUTÓNOMA][Self-study]	50
Total horas: 112.5	

10. Bibliography and Sources						
Author(s)	Title/Link	Publishing house	Citv	ISBN	Year	Description
Taha, Hamdy A.	Investigación de operaciones	Pearson Educación		978-607-32-0796-6	2012	
Deulofeu, J.	Prisioneros con dilemas y estrategias dominantes	RBA		978-84-473-6631-6	2010	
Aguado, J.C.	Teoría de la decisión y de los juegos	Delta publicaciones		84-96477-36-3	2007	
Barbolla, R., Cerdá, E., Sanz, P.	Optimización : programación matemática y aplicaciones a la economía	Garceta		978-84-9281-220-2	2011	
Sergio, J., Mateos, E.	El arte de programar en R:un lenguaje para la estadística	Instituto Mexicano de Tecnología del Agua		978-607-9368-15-9	2014	
	https://cran.r-project.org/doc/contrib/Santana_El_arte_de_programar_en_R.pdf					

Pérez, I., Minguillón, E., Jarne, G.	Matemáticas para la economía: programación matemática y sistemas dinámicos	McGraw-Hill	84-481-3192-4	2001
Barbolla, R., Cerdá, E.	Optimización. Programación matemática y aplicaciones a la economía	Garceta Grupo Editorial		2010
Cao, R.	Introducción a la Simulación y a la Teoría de Colas	Netbiblio		2002
Diestel, R.	Graph Theory	Electronic Edition		2005
Eppen, G.D. et al.	Investigación de operaciones en la ciencia administrativa	Prentice Hall		2000
Gibbons, A.	Un primer libro de teoría de juegos	Antoni Bosch		2005