

Course Unit	-	Field of study	-
	-	School	School of Technology and Management
Academic Year	2022/2023	Year of study	1
Type	Semestral	Semester	1
Level		ECTS credits	2.0
Code	5063-749-1111-00-22		
Workload (hours)	54	Contact hours	T - TP - PL - TC - S - E - OT - O -

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s) Ana Paula Carvalho do Monte

#### Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

1. Define the objectives of the decision-making process and the stages of decision making.
2. Demonstrate the importance of information systems for decision making.
3. Recognise decision support systems and their fundamentals.
4. Know the management indicators useful for decision making
5. Interpret and analyse financial reports

#### Prerequisites

Not applicable

#### Course contents

Organizations and decision processes. Decision theory and multicriteria analysis: situations of uncertainty and risk. Structuring alternatives and decision criteria. Decision trees. Multiple criteria decision problems. Sensitivity analysis and 'what-if' analysis. Scenario analysis. Information processing and analysis. Management indicators. Analysis of financial reports.

#### Course contents (extended version)

1. Introdução
2. Organizations and the decision processes
3. Decision theory and multicriteria analysis: situations of uncertainty and risk.
4. Structuring of alternatives and decision criteria.
5. Decision trees.
6. Multi-criteria decision problems.
7. Sensitivity analysis and 'what-if' analysis.
8. Scenario analysis.
9. Information processing and analysis.
10. Management indicators.
11. Financial reporting analysis.

#### Recommended reading

1. Gouveia, L. B., & Ranito, J. (2007). Sistemas de informação de apoio à gestão
2. Sharda, R., Delen, D., & Turban, E. (2019). Business Intelligence e Análise de Dados para Gestão do Negócio-4. Bookman Editora.
3. Zhai, Z., Martínez, J. F., Beltran, V., & Martínez, N. L. (2020). Decision support systems for agriculture 4.0: Survey and challenges. Computers and Electronics in Agriculture, 170, 105256.
4. Driscoll, P. J., Parnell, G. S., & Henderson, D. L. (Eds.). (2022). Decision making in systems engineering and management. John Wiley & Sons.
5. Fernandes, C., Peguinho, C., Vieira, E., & Neiva, J. (2016). Análise Financeira-Teoria e Prática. 4ª edição. Lisboa: Edições Sílabo.

#### Teaching and learning methods

Use of active methodologies of teaching-learning with recourse to Project based learning (PBL) and inverted classroom according to the programmatic content to be achieved.

#### Assessment methods

1. distributed assessment - (Regular, Student Worker) (Final, Supplementary)
  - Projects - 100% (On financial and non-financial information analysis, forecasting, sensitivity and scenarios analysis)
2. Exam - (Regular, Student Worker) (Supplementary, Special)
  - Final Written Exam - 100% (Global written assessment test)

#### Language of instruction

1. Portuguese
2. Portuguese, with additional English support for foreign students.

#### Electronic validation

Ana Paula Carvalho do Monte	António Borges Fernandes	José Carlos Rufino Amaro
17-07-2023	25-07-2023	26-07-2023