

27447 - ICT for Decision-Making

Información del Plan Docente

Academic Year	2018/19
Subject	27447 - ICT for Decision-Making
Faculty / School	109 - Facultad de Economía y Empresa
Degree	417 - Degree in Economics
ECTS	3.0
Year	4
Semester	First semester
Subject Type	Optional
Module	---

1.General information

1.1.Aims of the course

1.2.Context and importance of this course in the degree

1.3.Recommendations to take this course

2.Learning goals

2.1.Competences

2.2.Learning goals

2.3.Importance of learning goals

3.Assessment (1st and 2nd call)

3.1.Assessment tasks (description of tasks, marking system and assessment criteria)

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

Having the subject an orientation eminently practical, the presentation of the contents will take place in the computer room following a professional guidance. In parallel, the exploitation with cognitive purposes of the decisional tools studied in the classroom will be held in a narrative way, using unstructured methods (lateral thinking, group discussion...) for enhancing creativity and emotional skills. When possible, individual class projects will be grouped to be performed in a context of multiple actors, to train the students in the group decision making process (co-decision and co-creation).

4.2.Learning tasks

Apart from the regular lectures in the computer room, according to the schedule described in the next section, the

27447 - ICT for Decision-Making

students' training will be complemented by a minimum of three group tutorials. Furthermore, a collaborative tool for discussion and debate on the more relevant economic and business issues will be enabled.

4.3.Syllabus

Unit 0: Presentation of the subject (objectives, programme, methodology, schedule, assessment)

Unit 1: Introduction to Decision Support Systems

- 1.1 Decision-making problems and decision-making processes
- 1.2 Components of a Decision Support System
- 1.3 Case study: Google Maps
- 1.4 Case study: a shipment planning system

Unit 2: Optimization of economic problems

- 2.1 Linear optimization
- 2.2 Distribution routing and distribution networks
- 2.3 Decision making under uncertainty
- 2.4 Multi-criteria optimization techniques

Unit 3: Design and exploitation of data bases

- 3.1 Relational database model
- 3.2 Office and corporate database management systems
- 3.3 Design of relational data bases
- 3.4 Query design

4.4.Course planning and calendar

27447 - ICT for Decision-Making

Week	Type	Contents
1	Lecture	Introduction to the subject
2	Lecture	Introduction to Decision Support Systems
3	Lecture Practice session Group tutorial	Optimization of economic problems Optimization with Microsoft Excel Solver Groupwork assignment
4	Practice session	Linear optimization - Continuous Programming
5	Practice session	Linear optimization - Integer and binary programming
6	Practice session	Distribution routing and distribution networks
7	Practice session	Decision making under uncertainty - Portfolio optimization
8	Practice session	Decision making under uncertainty - Game theory
9	Practice session	Multi-criteria optimization techniques - Goal programming
10	Practice session Group tutorial	Multi-criteria optimization techniques - Compromise optimization Groups progress monitoring

27447 - ICT for Decision-Making

11	Lecture	Design and exploitation of data bases
	Practice session	Data base design with Microsoft Access
12	Practice session	Query design - Selection queries
13	Practice session	Query design - Aggegated data queries
14	Practice session	Query design - Update queries
	Group tutorial	Groups progress monitoring
15	Assessment tasks	Group projects presentation

4.5. Bibliography and recommended resources