

Academic Year/course: 2022/23

## 27536 - Decision-making systems

### Syllabus Information

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**Academic Year:** 2022/23

**Subject:** 27536 - Decision-making systems

**Faculty / School:** 109 - Facultad de Economía y Empresa

**Degree:** 449 - Degree in Finance and Accounting

**ECTS:** 5.0

**Year:** 4

**Semester:** First semester

**Subject Type:** Optional

**Module:**

### 1. General information

### 2. Learning goals

### 3. Assessment (1st and 2nd call)

### 4. Methodology, learning tasks, syllabus and resources

#### 4.1. Methodological overview

The methodology followed in this course is oriented towards the achievement of the learning objectives. A wide range of teaching and learning tasks are implemented, such as lectures, practice sessions, autonomous work, study and case studies.

As the orientation of course is mainly practical, the contents will be presented in the computer room starting with the resolution of small decision problems. In the final sessions of the course, more complex situations will be handled. In this way, we look forward to develop the attitudes (abilities, habits and qualities) when coping with decision making in complex situations.

#### 4.2. Learning tasks

The course includes the following learning tasks:

	Contact hours	Autonomous work	Overall workload
Lectures	15	15	30
Practice sessions	29	48	77
Case Studies (practice)	6	12	18
TOTAL	50	75	125

Expositive sessions will be mixed with the resolution of problems, and in the final part of the course, the sessions will be completely practical.

In principle, the teaching delivery methodology is expected to pivot around face-to-face classes. However, if necessary, for health reasons, face-to-face classes may be taught online.

### 4.3. Syllabus

The course will address the following topics:

#### Section I: INTRODUCTION

- Topic 1. Introduction to Decisional Systems
  - 1.1 Decision Problems and Processes
  - 1.2 Components of a Decisional System
  - 1.3 Computer tools in Business Management

#### Section II: BUSINESS DECISION MAKING

- Topic 2. Decision Making. Optimisation
  - 2.1 Introduction to Decision Making.
  - 2.2 Optimisation Problems. Modelling and resolution
  - 2.3 Optimisation Software for Decision Making
  - 2.4 Applications in Finance and Accounting
- Topic 3. Decision Making. Simulation
  - 3.1 Introduction to Simulation
  - 3.2 Generation of Random Numbers and Variables
  - 3.3 Simulation Software for Decision Making
  - 3.4 Applications in Finance and Accounting

#### Section III: DATABASES

- Topic 4. Databases Management
  - 4.1 Introduction to Databases
  - 4.2 Relational Database Model
  - 4.3 Design of Tables and Queries
  - 4.4 Database Management Software

#### Section IV: CASE STUDIES

### 4.4. Course planning and calendar

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course, will be provided on the first day of class or please refer to the Faculty of Economics and Business website (<https://econz.unizar.es/>)