

## 27652 - ICT and Databases

### Syllabus Information

**Academic Year:** 2021/22

**Subject:** 27652 - ICT and Databases

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

**Degree:** 450 - Degree in Marketing and Market Research

**ECTS:** 5.0

**Year:** 4

**Semester:** Second 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 learning process designed for this subject is based on the use of active methodologies that require student participation, by proposing and solving exercises and problems, developing and presenting papers, etc. In the the computer lab sessions, the student will work with the computer autonomously following the guidelines given by the teacher in order to develop the skills and abilities required by the course.

The teaching methodology is planned for face-to-face classes. However, if necessary for health reasons, teaching could be delivered on line

#### 4.2. Learning tasks

The course includes the following learning tasks:

- Lectures. The teacher will combine theory sessions with the active methodologies that encourage student participation and involvement in the development of the class.
- Practice sessions. Sessions in the computer lab, where the teacher will propose exercises about the different applications that the student must learn to handle.

The assessment will be prepared to be carried out as face-to-face examination, but if health circumstances do not allow it, they will be carried out by doing it entirely online or in a blended way. In the case of online exams, it is important to highlight that, the student may be recorded, and he or she can exercise his or her rights by the procedure indicated in.

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The necessary software will be used to check the possibility of plagiarism. The detection of plagiarism or copying in an activity will imply that the activity or exam will be marked 0/10.

### 4.3. Syllabus

#### **THEORETICAL PART**

1. Introduction.
  - 1.1 The current Information Society.
  - 1.2 Databases and Marketing. Requirements, objectives and strategic use.
2. Fundamentals of Databases.
  - 2.1 Before databases. Data files.
  - 2.2 Source of databases.
  - 2.3 Defining database.
  - 2.4 Characteristics of databases.
  - 2.5 The DBMS (Database Management System Data).
  - 2.6 Users of Databases.
  - 2.7 Evolution of databases. Databases models.
3. Relational Databases.
  - 3.1 The Relational Model. Features and advantages.
  - 3.2 Fundamental concepts of relational databases.
  - 3.3 Design Database. Standardization.
4. Information Systems.
  - 4.1 Definition of Information Systems, Objectives.
  - 4.2 Elements of Information Systems.
  - 4.3 Systems government.
    - ? Systems Security. Technical and organizational measures needed.
    - ? Guarantee of privacy and confidentiality.
    - ? Compliance with standards.
  - 4.4 Quality, Audit and Certification.
  - 4.5 Information Systems in Cloud Computing. Advantages and risks of cloud computing.
    - ? Definition of Cloud Computing.
    - ? Features. Strengths and weaknesses.
5. Other challenges in data processing.
  - 5.1 Big Data.
  - 5.2 Business intelligence.

#### **PRACTICAL PART**

1. Design, creation and updating of databases.
  - ? Design and creation of tables.
  - ? Relations between tables.
  - ? Integrity constraints. Validation rules.
  - ? Design for consultation of databases. Selection criteria. Ordination.
  - ? Updates.
  - ? Development of forms and reports.
  - ? Advanced options.
2. Development of customized applications for databases management.
  - Interface Design.

- Modular structure.
- Programming with wizard.
- WORK / PROJECT: Design and development of a database and an application for its management.

3. Web content manager (Wordpress). Cloud storage web platform. Messaging web platform.

4. Artificial Intelligence for Marketing.

#### **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/>)