Course: Information Systems Management I
Code: 10BBA11001

Type: Required
Year: 2
Semester: 1
ECTS Credits: 4
Language: Spanish
Coordination:

Faculty:
Feliciano Sesé Muniategui
Jordi Tardà Valls

Workload distribution:
Lectures 25 hours
Participatory sessions 17 hours
Independent work 74 hours
Tutorials 4 hours

Course contribution to the programme:
Information is crucial to the management of a business. Any management system is based on an information system, and vice versa. The information system that a business or organisation has, whatever activities it is for, is a determining factor in the way that business can be run.

An information system means the whole set of people, procedures and material means used to capture, process, keep, distribute and broadcast information.

Up until the present, the technology used to carry out these functions was based on paper documents, which imposes strict conditions on information transmission, storage and recuperation. All traditional information systems (such as the oldest one, accountancy) were conceived with implicit acceptance of these limitations.

Electronic communication has freed information from the physical limitations of the paper support. Nowadays, information, in a digital support, is immaterial, which makes it ubiquitous; it can be everywhere at the same time, and almost instantaneously.

This fact is bringing on a drastic revolution in the conception of information systems and, by extension, management systems in companies and the various functional areas. As Peter Drucker says: " Twenty years from now, the typical large business will have half the levels of management and one third the managers (...) it will look more like a symphony orchestra than the typical manufacturing company (...). Behind these changes lies information technology."
Faced with these changes, one of the most serious problems that companies have is the lack of ability on the part of their executives to come up with ways of managing them which exploit these new possibilities, although they are more efficient and effective. Peter Senge’s point of view is that: "the classic function of the executive was always to be the “Captain of the Ship” (setting the course, the direction of the company)”, but now, he says, “that role is changing more every day into the role of ‘naval architect’ (the one who designs the company)”.

To be able to imagine or talk about new information system designs, one needs the conceptual frameworks that will enable one to express the new ideas.

**Course learning objectives:**
The aim of this course is that students learn to:

- See the company as an information system.
- Obtain information from data sets.
- Analyse and create conceptual models of information systems.
- Implement said conceptual models, creating prototypes using Access.
- Understand the possibilities that information technologies offer executives to design or redesign organisations.

**Skills developed:**
A. The ability to apply knowledge to get results
B. The ability to work in a team and collaborate

**Contents and methodology:**
**BLOCK 1 Introduction to Information Systems**

1.1 Introduction to the discipline
1.2 Introduction to the course
1.3 Information systems in organisations
1.4 Basic concepts of Information Systems

**BLOCK 2 Technological bases of Information Systems**

2.1 The infrastructures of information technologies
2.2 Hardware
2.3 Software
2.4 Communication networks
2.5 Telecommunications
BLOCK 3 Information transformation

3.1 Introduction to DBMS
3.2 The relational data model
3.3 Relational algebra.
3.4 SQL.
3.5 Business Intelligence.

BLOCK 4 Structuring information

4.1 Analytical method of data modelling: Normalisation
4.2 Synthetic method of data modelling: Entity-Relation

BLOCK 5 Information management

5.1 Formula design
5.2 Conceptual model of Information Systems

ACTIVITIES:

Block 1: 3 hours of lectures
Block 2: 1.5 hours of lectures and 3 hours of participatory sessions
Block 3: 9 hours of lectures and 10.5 hours of participatory sessions
Block 4: 11.5 hours of lectures and 1.5 hours of participatory sessions
Block 5: 1.5 hours of lectures and 1.5 hours of participatory sessions

Lectures: The Professor combines theoretical presentations with exercises and case studies.

Participatory sessions: During these sessions, the students carry out a variety of activities: participatory solution of exercises and case studies, learning to use the Access database management system, group presentation of studies carried out and the analysis and diagnosis of a business situation, also done in groups. During the participatory sessions there are also occasional tests to check knowledge acquired by the student in his or her individual work.

Voluntary tutorials for those students requiring them.

**Evaluation:**
Competence A will be assessed through exams and class participation. The carrying out of the CIT task and the diagnostic and design tasks contributes to the assessment of Competence B.

The various assessment tools will provide the final grade, weighted as follows:

Class participation (20%)
Using the exercises, work done and attention in the participatory sessions, the Professors will give the students a grade weighted at 20% of the final course grade. In the participatory sessions, some sections of the collection of exercises are solved, leaving the students to solve the unsolved sections themselves. In the next session, individually or in pairs, the teacher can ask the students to submit the sections they had to.

CIT task (10%).

In groups of five, a task is carried out involving the analysis and presentation of one area of information technology. Each group is assigned a tutor. Regulations and schedule are provided when appropriate. This is weighted at 10% of the final grade, and presentation of the task is a requirement for all students on the course.

Practical analysis and design tasks (10%)

The same groups as the previous task must analyse the situation of a company from the information provided by a database containing the company’s sales receipts, plus two further cases of consultancy design and a business data model.

Partial exams (20%).

During the academic year, there will be partial tests worth 20% of the final grade. All subjects studied are included.

Final exam (40%).

The final exam is compulsory for all students, and is worth 40% of the final grade.

General conditions

In all cases, in order to pass the course, students must obtain a minimum mark of 5 out of 10 in the final exam and the group tasks.

Extraordinary exam (2nd exam session):
There will be an exam of the same contents and structure as the ordinary exam in the 1st exam session. The exam mark will provide the student’s final grade.

Core bibliography:
Laudon, Jane P. and Laudon, Kenneth C. Management Information Systems: Managing the
Complementary bibliography and reading material: