

**Information Systems**

Code: 102389  
ECTS Credits: 6

Degree	Type	Year	Semester
2501572 Business Administration and Management	OT	4	0
2501573 Economics	OT	3	2
2501573 Economics	OT	4	0

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

**Contact**

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**Use of Languages**

Principal working language: catalan (cat)  
Some groups entirely in English: Yes  
Some groups entirely in Catalan: Yes  
Some groups entirely in Spanish: No

**Teachers**

Joan Caballero Chacon

**Prerequisites**

Course development does not require any knowledge prerequisites.  
All administrative requirements to enrol the course must be fulfilled.

**Objectives and Contextualisation**

Explore how companies are using information systems and technologies to transform business models, develop new strategies, innovate with new products and services and achieve operational excellence.

1. Understand why information systems are so essential in business today.
2. Differentiate applications or functionalities according to the basic types of Information Systems and identify the added value they bring to management.
3. Understand how business processes are executed using Information Systems.
4. Define an information system from both technical and business perspectives.
5. To evaluate the complementary assets required for the information systems to add value to the company.
6. Identify the risks derived from digital dependency.
7. Use specific tools in the field of data analysis and business process execution.
8. Understand how the Internet and the mass adoption of Information Systems have impacted traditional business models.

**Competences**

### Business Administration and Management

- Apply mathematical instruments to synthesise complex economic-business situations.
- Apply theoretical knowledge to improve relations with clients and suppliers, identifying the advantages and disadvantages of those relations for both sides: company and client or supplier.
- Capacity for adapting to changing environments.
- Capacity for independent learning in the future, gaining more profound knowledge of previous areas or learning new topics.
- Capacity for oral and written communication in Catalan, Spanish and English, which enables synthesis and oral and written presentation of the work carried out.
- Demonstrate initiative and work individually when the situation requires it.
- Identify, justify and reason the appropriate decisions according to the basic parameters of a business problem.
- Organise the work in terms of good time management, organisation and planning.
- Select and generate the information necessary for each problem, analyse it and take decisions based on that information.
- Show motivation for carrying out quality work and sensitivity to the consequences for the environment and society.
- Take decisions in situations of uncertainty, demonstrating an entrepreneurial and innovative attitude.
- Use of the available information technology and adaptation to new technological environments.
- Value ethical commitment in professional practice.
- Work well in a team, being able to argue proposals and validate or reject the arguments of others in a reasoned manner.

## Learning Outcomes

1. A capacity of oral and written communication in Catalan, Spanish and English, which allows them to summarise and present the work conducted both orally and in writing.
2. Apply algorithmic resolution techniques to optimisation problems.
3. Apply the basic principles of modelling in business decision-making.
4. Assess ethical commitment in professional activity.
5. Capacity to adapt to changing environments.
6. Capacity to continue future learning independently, acquiring further knowledge and exploring new areas of knowledge.
7. Demonstrate initiative and work independently when required.
8. Demonstrate motivation regarding the quality of the work performed and sensitivity regarding the consequences on the environment and society.
9. Differentiate between alternative methods of analysis, and apply the appropriate quantitative tools to resolve business management problems.
10. Make decisions in situations of uncertainty and show an enterprising and innovative spirit.
11. Model the management of business operations by applying quantitative support techniques.
12. Organise work, in terms of good time management and organisation and planning.
13. Select and generate the information needed for each problem, analyse it and make decisions based on this information.
14. Solve problems optimising and obtaining forecasts through information technology applications.
15. Use available information technology and be able to adapt to new technological settings.
16. Use forecasting techniques in business contexts.
17. Work as part of a team and be able to argue own proposals and validate or refuse the arguments of others in a reasonable manner.

## Content

### Unit 1: Information systems in global businesses Today

1. Data, information and knowledge.
2. The information value chain: database and information management.
3. Information system types.
4. ICT infrastructure. Data centers and cloud computing.

Unit 2: Business processes and management information systems.

1. Business processes.
2. Corporate information systems: ERP, CRM and SCM.

Unit 3: Data analysis: support to control and decision making.

1. Business intelligence.
2. Big data and analytics.

Unit 4: Digital transformation.

1. Digital disruption.
2. Ecommerce.
3. Collaborative economy.
4. Internet of things, smart cities and industry 4.0.

Unit 5: Security and ethical aspects related with information systems.

1. Integrity, availability and confidentiality.
2. Threats and cybercrime.
3. Securing Information Systems
4. Privacy, transparency and intellectual property.

Unit 6: Productivity tools.

1. Data analysis using spreadsheets.
2. Information management: Relational databases.

## Methodology

Teacher-pupils relationship

The general and relevant information about the course, such as the dates of continuous assessment and dates and conditions of the work assignments, will be published on the virtual campus (or equivalent site) and may be subject to changes of programming for reasons of adaptation to possible incidents. The virtual campus will always be informed about these changes as it is understood that the virtual campus is the usual mechanism for exchanging information between teacher and student.

Lectures, cases, seminars, and sessions for solving exercises

These sessions will be held on campus and present the basic contents of the course.

Laboratory practical sessions:

Practical sessions will be held in a computer-aided classrooms led by a lecturer, covering the usage of spreadsheets, databases and the ERP system SAP.

During the course, teamwork and the collaborative exchange of information and tools for solving problems will be encouraged. However, the final learning process must be individual, highlighted by the autonomous activity of each student, who will have to complement and enrich the work initiated in the course's directed sessions. The supervised activity, around regular tutorials and sporadic consultations carried out during the course, is also an indispensable tool in the acquisition of the knowledge that the subject provides.

The proposed teaching methodology may undergo some modifications according to the restrictions imposed by the health authorities on on-campus courses.

## Activities

Title	Hours	ECTS	Learning Outcomes
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Type: Directed

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Practise classes	13	0.52	3, 2, 5, 1, 6, 7, 9, 11, 8, 12, 10, 14, 13, 17, 15, 16, 4
Theory classes	33	1.32	3, 2, 1, 6, 9, 11, 14, 15, 16, 4
Type: Supervised			
Tutorial hours and individual attention for the proposed cases	10.5	0.42	2, 5, 1, 6, 7, 9, 11, 8, 12, 10, 13, 17, 15
Type: Autonomous			
Study of proposed materials, preparation of exercises and suggested activities	90	3.6	3, 2, 5, 7, 9, 11, 12, 10, 14, 13, 17, 15, 16

## Assessment

If the student does not achieve a minimum grade of 3 in the final exam, it will not compute in the calculation of the final course grade (the mark of the final exam will be counted as 0). If the course grade calculated according to the percentages indicated in the evaluation system, considering a 0 grade of the final exam, is at least equal to 3.5, the student can attend the retake exam.

### Calendar of evaluation activities

The dates of the evaluation activities (midterm exams, exercises in the classroom, assignments, ...) will be announced well in advance during the semester.

The date of the final exam is scheduled in the assessment calendar of the Faculty.

*"The dates of evaluation activities cannot be modified, unless there is an exceptional and duly justified reason why an evaluation activity cannot be carried out. In this case, the degree coordinator will contact both the teaching staff and the affected student, and a new date will be scheduled within the same academic period to make up for the missed evaluation activity."* **Section 1 of Article 115. Calendar of evaluation activities (Academic Regulations UAB).** Students of the Faculty of Economics and Business, who in accordance with the previous paragraph need to change an evaluation activity date must process the request by filling out an Application for exams' reschedule

[https://eformularis.uab.cat/group/deganat\\_feie/application-for-exams-reschedule](https://eformularis.uab.cat/group/deganat_feie/application-for-exams-reschedule)

### Grade revision process

After all grading activities have ended, students will be informed of the date and way in which the course grades will be published. Students will be also be informed of the procedure, place, date and time of grade revision following University regulations.

### Retake Process

All students are required to perform the evaluation activities. If the student's grade is 5 or higher, the student passes the course and it cannot be subject to further evaluation. If the student grade is less than 3.5, the student will have to repeat the course the following year. Students who have obtained a grade that is equal to or greater than 3.5 and less than 5 can take a second chance exam. The lecturers will decide the type of the second chance exam. When the second exam grade is greater than 5, the final grade will be a PASS with a maximum numerical grade of 5. When the second exam grade is less than 5, the final grade will be a FAIL with a numerical grade equal to the grade achieved in the course grade (not the second chance exam grade).

A student who does not perform any evaluative task is considered "not evaluable", therefore, a student who performs a continuous assessment component can no longer be qualified with a "not evaluable"

### Irregularities in evaluation activities

In spite of other disciplinary measures deemed appropriate, and in accordance with current academic regulations, *"in the case that the student makes any irregularity that could lead to a significant variation in the grade of an evaluation activity, it will be graded with a 0, regardless of the disciplinary process that can be instructed. In case of various irregularities occur in the evaluation of the same subject, the final grade of this subject will be 0"*. **Section 10 of Article 116. Results of the evaluation. (UAB Academic Regulations).**

The proposed evaluation activities may undergo some changes according to the restrictions imposed by the health authorities on on-campus courses.

## Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Exercises on the use of the ERP system SAP.	20%	0	0	3, 2, 5, 6, 7, 9, 8, 12, 10, 14, 17, 15, 4
Final exam. A minimum score of 3 is required to pass the course.	40%	2	0.08	5, 7, 9, 11, 8, 10, 14, 13, 15, 4
In-class activities, case studies and student participation. Evaluation will be based on student presentations, participation in class and development of case studies.	15%	1.5	0.06	3, 1, 6, 7, 8, 12, 10, 13, 17, 15, 16, 4
Practical sessions on the use of spreadsheets and relational databases. Evaluation will be based on practical exercises performed in groups of students.	25%	0	0	2, 6, 7, 11, 8, 12, 10, 14, 13, 17, 15, 4

## Bibliography

Laudon, KC, Laudon, JP (2008), "Management Information Systems", 14<sup>th</sup> edition. Ed. Pearson Education

HART-DAVIS, G. (2007): "Excel 2007 step by step." Ed. McGraw-Hill