



Universitat de Lleida

# DEGREE CURRICULUM **INFORMATION AND DISTRIBUTION SYSTEMS**

Coordination: PAGÈS BERNAUS, ADELA

Academic year 2019-20

## Subject's general information

Subject name	INFORMATION AND DISTRIBUTION SYSTEMS			
Code	102407			
Semester	2nd Q(SEMESTER) CONTINUED EVALUATION			
Typology	Degree	Course	Character	Modality
	Bachelor's degree in Industrial Organization and Logistics Engineering	3	COMPULSORY	Attendance-based
Course number of credits (ECTS)	6			
Type of activity, credits, and groups	Activity type	PRAULA		TEORIA
	Number of credits	3		3
	Number of groups	1		1
Coordination	PAGÈS BERNAUS, ADELA			
Department	BUSINESS ADMINISTRATION			
Teaching load distribution between lectures and independent student work	Classroomm hours: 60 hores Autonomous work: 90 hores			
Important information on data processing	Consult <a href="#">this link</a> for more information.			
Language	Catalan / Spanish			
Distribution of credits	Theoretical: 3 ECTS Room practices: 3 ECTS			

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
PAGÈS BERNAUS, ADELA	adela.pages@udl.cat	6	

## Subject's extra information

The subject Information and Distribution Systems is studied in the 2nd semester of the 3rd year of the Degree in Engineering in Industrial Organization and Logistics. It corresponds to the Subject "Information and distribution systems" within the Module "Specific Formation: Industrial Organization and Logistics".

This subject requires continuous work throughout the semester in order to achieve the stated goals. Critical thinking and abstract reasoning abilities are required.

It is recommended to frequently visit the **Virtual Campus** (<http://cv.udl.cat>) space associated with this subject as all the corresponding information is announced.

## Learning objectives

The main learning objectives are:

- To know the fundamentals of an information system.
- To know how to make models and simulations for the control of production and distribution processes.
- To apply systems for storage, modification and retrieval of information from a database.
- To apply digital systems and technologies to distribution processes.

## Competences

### Basic

B02 That students know how to apply their knowledge to their work or vocation in a professional manner and possess the skills that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study.

B03 That students have the ability to gather and interpret relevant data (usually within their area of study) to make judgments that include a reflection on relevant social, scientific or ethical issues.

B04 That students can transmit information, ideas, problems and solutions to a specialized and non-specialized public.

B05 That students have developed those learning skills necessary to undertake further studies with a high degree of autonomy.

### Transversal

CT1. To develop a proper understanding and oral and written expression of Catalan and Spanish.

CT3. To implement new technologies and technologies of information and communication.

CT5. To apply essential notions of scientific thinking.

### General competences

CG4. To solve problems with initiative, make decisions, creativity, critical reasoning and to communicate and

transmit knowledge, skills and abilities in the field of Industrial Organization Engineering.

CG6. To implement specifications, regulations and mandatory rules.

CG9. To organize and plan in the field of the company, and other institutions and organizations.

CG10. To work in a multilingual and multidisciplinary environment.

## **Specific competences**

CE15. To apply the basic knowledge of production and manufacturing systems.

CE19. To have applied knowledge of basics and principles of quality management and technological innovation.

CE22. To acquire capacity to design enterprise information systems.

CE29. To acquire capacity to design and optimize the logistics and transportation.

## Subject contents

### **Lesson 1. Introduction to Information Systems**

- The five components of an information system
- Classification of Information Systems
- Influence of the Information Systems towards competitiveness
- Business Information Systems
- Life cycle for the development of an Information System

### **Lesson 2. Planning Information Systems**

- Evolution of the strategic planning for new information systems
- Objectives for implementing an Information System
- Project Management
- Viability Analysis (economic, technical, operational, ...)

### **Lesson 3. Information System Analysis**

- Analysis of the current situation
- Problems and opportunities analysis
- Objectives for the new information system
- Requirements analysis

### **Lesson 4. Design and implementation of Information Systems**

- Modeling system requirements (*Use Case*)
- Data model (logical and physical model)
- Data bases
- Process modeling (logical and physical model)
- Implementation and system testing

### **Lesson 5. Big data and digital innovation**

- *Business Intelligence* tools
- Social Networks
- *Blockchain*
- Emergent technologies and industrial transformation

## Methodology

The course will be taught with a combination of master classes and practical activities which will involve lectures and case study analyses.

The usual format of the sessions will consist of a first part of explanation of the main concepts, and then a practical classroom-guided activity that will allow students to internalize and consolidate the concepts discussed in the session.

This subject belongs to the Integrating Project of 3rd Course. The project coordinator will monitor the tasks to be submitted, as outlined in the timeline provided at the beginning of the course. All the subjects involved in the project will be registered jointly. In the circumstance that the students might have passed more than 50% of the subjects involved in the project, they will be allowed to write an equivalent project focused on the subject they are currently taking.

The time distribution of dedications will be:

Activity	Classroom activity		Homework activity		Total time
	Goals	Hours	Student work	Hours	Hours/ECTS
Master class	Explanation of concepts	30	Comprehension	45	75
Problems and case studies	Case study, problems	30	Problem solving	45	75
Totals		60		90	150

## Development plan

Week	Description	Classroom activity	HTP	Homework activity	HTNP
S1	Presentation. Lesson 1	Presentation of the subject Master class	4	Comprehension	6
S2	Lesson 1	Master class. Problems setup	4	Comprehension and problem solving	6
S3	Lesson 1	Master class. Problems setup	4	Comprehension and problem solving	6
S4	Lesson 2	Master class. Problems setup	4	Comprehension and problem solving	6
S5	Lesson 2	Master class. Problems setup	4	Comprehension and problem solving	6
S6	Lesson 3	Master class. Problems setup	4	Comprehension and problem solving	6
S7	Lesson 3	Master class. Problems setup	4	Comprehension and problem solving	6
S8	Lesson 3	Master class. Problems setup	4	Comprehension and problem solving	6
S9	First term test	Individual written test	2	Test preparation	3
S10	Lesson 4	Master class. Problems setup	4	Comprehension and problem solving	6
S11	Lesson 4	Master class. Problems setup	4	Comprehension and problem solving	6
S12	Lesson 4	Master class. Problems setup	4	Comprehension and problem solving	6

<b>S13</b>	Lesson 4	Master class. Problems setup	4	Comprehension and problem solving	6
<b>S14</b>	Lesson 5	Master class. Problems setup	4	Comprehension and problem solving	6
<b>S15</b>	Lesson 5	Master class. Problems setup	4	Comprehension and problem solving	6
<b>S16</b>	Second term test	Individual written test	2	Test preparation	3

## Evaluation

The final mark of the subject is composed of the following elements and weights:

- First term exam: 25%
- Second term exam: 25%
- Practical activities and classwork : 35%
- Integrating project: 15%

Score ranges from 0 to 10 points. A minimum score of 4 points in each exam is required in order to qualify for the course.

The activities must be submitted through the Campus Virtual site within the period given. The activities' mark will assess both presentation and contents.

Note: in case the student does not develop the project or equivalent work, the mark of the subject will be of Not attended.

## Bibliography

- Laudon, K; Laudon, J (2012) Sistemas de Información Gerencial. 12ª Edición. Pearson Education
- Gómez, A; Suárez, C (2011) Sistemas de Información. Herramientas prácticas para la Gestión Empresarial. 4ª Edición. Ra-Ma
- Fernández-Alarcón, V (2006) Desarrollo de sistemas de información. Una metodología basada en el modelado. Edicions UPC
- Lake, P; Drake, R (2014) Information Systems Management in the Big Data Era. Springer
- Bourgeois, DT (2014) Information Systems for Business and Beyond. The Saylor Academy