Universitat de Lleida

DEGREE CURRICULUM

INFORMATION AND DISTRIBUTION SYSTEMS

Coordination: MORENO GONZALEZ, SERGI

Academic year 2023-24

INFORMATION AND DISTRIBUTION SYSTEMS 2023-24

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	MORENO GONZALEZ, SERGI
Department	ECONOMICS AND BUSINESS
Teaching load distribution between lectures and independent student work	On-campus teaching: 60 hours Autonomous independent work: 90 hours
Important information on data processing	Consult this link for more information.
Language	Catalan / Spanish

INFORMATION AND DISTRIBUTION SYSTEMS 2023-24

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
MORENO GONZALEZ, SERGI	sergi.moreno@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 to this subject as all the corresponding information is announced there.

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 iImplement 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

- Components of an information system
- Classification of Information Systems
- Influence of the Information Systems towards competitivity
- 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 modeling (logical and physical model)
- Data bases
- Process modeling (logical and physical model)
- Implementation and system testing

Lesson 5. Digital innovation

- Company software
- Big Data and Business Intelligence tools
- eCommerce
- *Blockchain*
- Emergent technologies and industrial transformation

This course works with several softwares and applications: ProjectLibre and Trello for Project Management, diagrams.net for diagram representation and Base from LibreOffice for database creation and management.

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 guided activity that will allow students to consolidate the concepts discussed in the session.

This subject belong the 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
Total		60		90	150

Development plan

Week	Description	Classroom activity	HTP	Homework activity	HTNP
W1	Presentation. Lesson 1	Presentation of the subject Master class	4	Comprehension	6
W2	Lesson 1	Master class. Problems setup	4	Comprehension and problem solving	6
W3	Lesson 1	Master class. Problems setup	4	Comprehension and problem solving	6
W4	Lesson 2	Master class. Problems setup	4	Comprehension and problem solving	6
W5	Lesson 2	Master class. Problems setup	4	Comprehension and problem solving	6
W6	Lesson 3	Master class. Problems setup	4	Comprehension and problem solving	6
W7	Lesson 3	Master class. Problems setup	4	Comprehension and problem solving	6
W8	Lesson 3	Master class. Problems setup	4	Comprehension and problem solving	6
W9	First term test	Individual test	2	Test preparation	3
W10	Lesson 4	Master class. Problems setup	4	Comprehension and problem solving	6
W11	Lesson 4	Master class. Problems setup	4	Comprehension and problem solving	6

W12	Lesson 4	Master class. Problems setup	4	Comprehension and problem solving	6
W13	Lesson 4	Master class. Problems setup	4	Comprehension and problem solving	6
W14	Lesson 5	Master class. Problems setup	4	Comprehension and problem solving	6
W15	Lesson 5	Master class. Problems setup	4	Comprehension and problem solving	6
W16	Second term test	Individual test	2	Test preparation	3

Evaluation

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

- First term exam: 30% (minimum 4 points)
- Second term exam: 30% (minimum 4 points)
- Exercises and Activities: 20%
- Integrating project: 20%

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.

Resit of partial exams:

The exams of the ordinary call that result with a note below 4 points have the right to take a resit. In case of not performing a resit exam, a grade equal to 0 of the non-recovered part will be considered in order to calculate the final grade.

Alternate assessment:

The student that has the approval to be assessed through the alternative assessment (see requirements and procedure on assessment regulation) will have to perform the following activities:

- First and second term exams.
- Exercises and activities: face-to-face activities will be changes to video presentations with the corresponding presentation file.
- Project: Individual project similar to Integrating project but only with the subject points and the same deliverables.

Activities delivery dates of alternate assessment will be the same as the continuous assessment.

Bibliography

- Kenneth C. Laudon, Jane P. Laudon (2012) Sistemas de Información Gerencial. 12ª Edición. Pearson Education
- Álvaro Gómez Vieites, Carlos Suárez Rey (2011) Sistemas de Información. Herramientas prácticas para la Gestión Empresarial. 4ª Edición. Ra-Ma
- Vicenç Fernández Alarcón (2006) Desarrollo de sistemas de información. Una metodología basada en el modelado. Edicions UPC
- Peter Lake, Robert Drake (2014) Information Systems Management in the Big Data Era. Springer

- David T. Bourgeoir (2014) Information Systems for Business and Beyond. The Saylor Academy