



Universitat de Lleida

# DEGREE CURRICULUM **ORGANIZATION OF PRODUCTION**

Coordination: BADIA CLAVERA, JAVIER

Academic year 2022-23

## Subject's general information

<b>Subject name</b>	ORGANIZATION OF PRODUCTION			
<b>Code</b>	102117			
<b>Semester</b>	1st Q(SEMESTER) CONTINUED EVALUATION			
<b>Typology</b>	<b>Degree</b>	<b>Course</b>	<b>Character</b>	<b>Modality</b>
	Bachelor's Degree in Automation and Industrial Electronic Engineering	3	COMPULSORY	Attendance-based
	Bachelor's Degree in Energy and Sustainability Engineering	3	COMPULSORY	Attendance-based
	Bachelor's Degree in Mechanical Engineering	3	COMPULSORY	Attendance-based
	Double bachelor's degree: Degree in Mechanical Engineering and Degree in Energy and Sustainability Engineering	3	COMPULSORY	Attendance-based
Master's Degree in Industrial Engineering	1	COMPLEMENTARY TRAINING	Attendance-based	
<b>Course number of credits (ECTS)</b>	6			
<b>Type of activity, credits, and groups</b>	<b>Activity type</b>	PRAULA	TEORIA	
	<b>Number of credits</b>	3	3	
	<b>Number of groups</b>	3	1	
<b>Coordination</b>	BADIA CLAVERA, JAVIER			
<b>Department</b>	BUSINESS ADMINISTRATION			
<b>Teaching load distribution between lectures and independent student work</b>	60 hrs. presential and 90hrs independent work			
<b>Important information on data processing</b>	Consult <a href="#">this link</a> for more information.			



Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
BADIA CLAVERA, JAVIER	javier.badia@udl.cat	12	

## Subject's extra information

This course requires continuous work throughout the semester to achieve the objectives.

Critical thinking and capacity for abstraction is required.

You can find educational materials in the Virtual Campus: <http://cv.udl.cat> - Schemes notes - Collection of statements of exercises - Articles and publications - Materials and additional resources necessary to properly develop learning.

We recommend visiting frequently Virtual Campus space associated with the subject, announcements of relevant information and the publication of notices.

Besides tutoring schedule established, you can always send an email to the teacher to request a specific tutoring.

One way to approach the study of this subject is:

- Follow the explanations made by the teacher and make notes settings.
- Perform the exercises at the end of each topic.
- Read regularly notes and materials of different issues that are regularly made available through the virtual campus.
- Consult the literature to expand or emphasize key concepts
- To relate the theoretical contents that have been learned from the experience of the real environment.

## Learning objectives

Provide knowledge regarding the Director of Production and Operations of production and service companies

Analyze different concepts and terminologies that require various quantitative or qualitative analysis.

Define different models, scenarios and techniques that are common in the subsystem of the management of the production enterprises

## Competences

### Degree-specific competences

- Applied knowledge of business organization.

Goals

- To understand what is the nature of the Production and Operations Management in any organization, its historical evolution and interaction function with other areas of operations of the company.
- Acquire the skills and techniques associated with the logistics configurations and strategies location and space distribution.
- Know the main techniques for controlling and improving the quality
- Basic knowledge of production and manufacturing systems.

#### Goals

- Understand the process of planning, scheduling and production control in their decision-making levels: long, medium and short term.
- Understand the main tools for inventory management and application of queuing theory in the process.

### Degree-transversal competences

- Ability to consider the socio-economical context and sustainability criteria in engineering solutions.

#### Goals

- Identify mechanisms of change applicable in production and operations subsystems based on innovation, technology and application of knowledge
- Interpret Operations Management as a discipline applicable to the manufacture of goods and provision of services in all types of business and organization

- Ability to plan and organise personal work.

#### Goals

- Awareness of the need to consider any capacity planning level.
- Acquire the skills to make production plans, tactical and operational capacity.
- Establish strategies for organizing the jobs of workers and time machines.

- Ability to integrate within a company structure.

#### Goals

- Understand the influence of programming in production settings. operations, design master plans for planning and organizing materials.
- Ability to plan, schedule and control projects.

## Subject contents

### 1. Introduction to the organization of production and design of the product and process.

- 1.1. Company concept.
- 1.2. Company subsystems.
- 1.3. Business strategy.
- 1.4. Production.
- 1.5. Production organization.
- 1.6. Contributions to the organization of production.
- 1.7. Product design.

1.8. Selection and design of the production process.

1.9. Process analysis.

## **2. Plant location and distribution strategies.**

2.1. The location of productive activity.

2.2. Distribution in plant.

## **3. Project management in operations.**

3.1. Project management.

3.2. Project planning and control techniques.

## **4. Current approaches to operations management (OCD and Lean).**

4.1. Lean Manufacturing.

4.2. Theory of limitations.

## **5. Production planning.**

5.1. Introduction to operations management.

5.2. Production planning.

5.3. Aggregate planning.

5.4. Master production programming.

## **6. Inventory management and material requirements planning (MRP).**

6.1. Inventory management.

6.2. Inventory management of items with independent demand.

6.3. Inventory management of items with dependent demand.

## **7. Quality management.**

7.1. Quality and quality management.

7.2. Quality control.

## **Methodology**

- Master class: They will be held during large group sessions. Presentation of theoretical contents and proposal and / or resolution of some practical examples.
- Problems and case studies: They will be done during the middle group sessions. Approach and discussion of problems, which will be solved by the students individually or in groups.
- Practices: They will be carried out during the middle group sessions. Application of the contents worked in real problems of the industrial environment. The practices will have to expose to the rest of classmates.
- Company visit: It will take place during a large group session. Making a report on the visit.
- Reading and participation in the forum: In the event that it is not possible to visit the company, there will be a reading and subsequent discussion in the forum.

- Questionnaires: At the end of each block students will have to complete a questionnaire in order to consolidate the knowledge acquired.

## Development plan

Week	Methodology	Topic	Face-to-face hours	Self-employment hours
1	Master class	Topic 0	2	0
2	Master class Practice	Topic 1	2 2	5
3	Practice Master class	Topic 1 Topic 2	2 2	8
4	Problems	Topic 2	3	4
5	Master class Problems	Topic 3	2 2	5
6	Exhibitions Problems	Topic 1 Topic 3	2 2	5
7	Master class	Topic 4	4	5
8	Case studies	Topic 4	4	8
9	Evaluation	Test 1	2	6
10	Master class Problems	Topic 5	2 2	5
11	Master class Problems	Topic 5	2 2	5
12	Master class Problems	Topic 6	2 2	5
13	Master class Problems	Topic 6	1 2	5
14	Exhibitions Master class	Topic 4 Topic 7	2 2	5
15	Exposicions Master class	Topic 7	2 2	5
16 - 17	Evaluation	Test 2	2	6
18	Tutoring	Tutoring	2	4
19	Evaluation	Test	2	4
			60	90

## Evaluation

Activities	Criteria	%	Dates	O/V (1)	I/G (2)	Observations
PTP 1 (Test 1)	Topics 1 al 4	30%	Week 9	O	I	Minimum grade: 3 Can be recovered

Activities	Criteria	%	Dates	O/V (1)	I/G (2)	Observations
PTP 2 (Tesy 2)	Topics 5 al 7	30%	Week 16/17	O	I	Minimum grade: 3 Can be recovered
Practice 1	Topic 1	10%	Week 6	O	G	It is mandatory to deliver this activity correctly in time and form. Cannot recover
Practice 2	Topic 4	10%	Week 14	O	G	It is mandatory to deliver this activity correctly in time and form. Cannot recover
Questionnaires		10%	At the end of each unit	O	I	It is mandatory to deliver this activity correctly in time and form. Cannot recover
Reading or business visit forum		10%	Week 15	O	I	It is mandatory to deliver this activity correctly in time and form. Cannot recover

(1) *Compulsory / Voluntary*

(2) *Individual / Group*

### Clarifications

The subject of **Production Organization** will be evaluated by **evaluation keep on**.

The continuous assessment consists of the students obtaining grades of 6 activities, coming from: 2 written tests, the deliveries and exhibition of two Practices, the realization of the Questionnaires of end of unit and the reading and back participation in the Forum .

**Therefore, to pass this subject, the continuous evaluation must be passed**, bearing in mind:

**a)** The realization of 2 written tests that will evaluate the content of the program. The first test will be of subjects 1, 2, 3 and 4. The second test of topics 5, 6 and 7 (variable depending on the rhythm)

Each written test will have a weight of 30% in the final grade and its minimum grade is 3.

**b)** The delivery and presentation of the proposed practices will be they will value and have a weight for each of 10% in the final grade.



c) The completion of the questionnaires of each unit will be valued and will have a total weight of 10% in the final note.

d) The reading and subsequent participation in a discussion forum will be valued and will have a total weight of 10% in the final note.

### Important notice

1. It is mandatory to present the proposed practical tests as mandatory in time and form. They need to be presented correctly, **there is no recovery.**
2. Both written tests have a day and time of completion that we will notify you in advance and therefore can not be performed on another day or another time. **There is a final exam to retake the parts of the theory and practice test (PTP), in the event that the grade is less than 3 in either or the final grade for continuous assessment is less than 5.00.**

### Other aspects to keep in mind when taking the written tests:

- In the written tests only the pen and the calculator (which is not programmable)
- can be brought. No mobile phones, notes or any material with the contents can be brought. of the program.
- Anyone copying through any system will get the suspense rating directly.

### Final of the subject

The final mark of this subject will be calculated by making the weighted average of the 6 marks of the six blocks of activities according to the established percentages (see the table in this section), **passing the subject with a mark. equal to or greater than 5 out of 10.** If the subject has been approved in recovery, the maximum grade will be a 5.

In the event that in any of the written tests the mark is less than 3, if the average of all the marks is greater than 4, the final mark will be 4, while if it is less than 4, the mark will be equal to the average.

## Bibliography

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