



Universitat de Lleida

DEGREE CURRICULUM
PRODUCTION MANAGEMENT

Coordination: PAGES BERNAUS, ADELA

Academic year 2023-24

Subject's general information

Subject name	PRODUCTION MANAGEMENT			
Code	102499			
Semester	2nd Q(SEMESTER) CONTINUED EVALUATION			
Typology	Degree	Course	Character	Modality
	Bachelor's degree in Industrial Organization and Logistics Engineering	2	COMPULSORY	Attendance-based
	Common branch in industrial engineering programs - Igualada	2	COMPULSORY	Attendance-based
	Doble titulació: Grau en Enginyeria en Organització Industrial i Logística i Grau en Administració i Direcció d'Empreses	2	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	PAGES BERNAUS, ADELA			
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			

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

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 the Virtual Campus space associated with the course. Announcements of relevant information and publication of notices will be published in this site.

Learning objectives

The main learning objectives are:

- Provide knowledge regarding the Production and Operations Management in companies producers of goods and/or services.
- Analyze different concepts and terminologies that require various quantitative or qualitative analysis.
- Define different models, scenarios and techniques that are common to managing the the Production subsystem within companies.

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.

CT4. To apply basic knowledge of entrepreneurship and professional environments.

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.

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.

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

CE30. To acquire capacity to supply chain management.

CE31. To acquire capacity for production planning and control, maintenance program implementation and perform statistical process control.

Subject contents

1. Production and Company

- 1.1 The company as a system
- 1.2 Subsystems
- 1.3 Business strategy
- 1.4 Production system
- 1.5 Organization of production
- 1.6 Operations Strategy
- 1.7 Product, productivity and process
- 1.8 Contributions to the organization of production

2. Capacity and Performance measures

- 2.1 Long-term capacity
- 2.2 Capacity management
- 2.3 Learning curve
- 2.3 Capacity Assessment Techniques: NPV, break-even analysis and decision trees

3. Method study

- 3.1 Process diagrams
- 3.2 Process performance
- 3.3 Process improvement

4. Work measurement

- 4.1 Work measurement techniques
- 4.2 Time study
- 4.3 Work sampling
- 4.4 Use of motion times standard

5. Processes and plant layout

- 5.1 Types of distributions
- 5.2 Techniques for solving plant layout problems
- 5.3 Balancing production and assembly lines

6. Quality Management tools

- 6.1 Historical evolution of quality management
- 6.2 Costs of quality and non-quality
- 6.3 Quality Control
- 6.4 Statistical Process Control
- 6.5 Ishikawa tools

- 6.6 Control charts
- 6.7 Continuous improvement (kaizen)
- 6.8 The ISO 9001 norm and the EFQM
- 7. **Programming and project management**
 - 7.1 Programming methods (CPM,PERT,Gantt)
 - 7.2 Time-Cost methods and Project Crashing
 - 7.3 Information systems for project management

In this course, practical exercises will be developed with spreadsheets (Excel).

Methodology

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

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.

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	PWH	Homework activity	NPWH
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 2	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 3	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 4	Master class. Problems setup	4	Comprehension and problem solving	6
S8	Lesson 4	Master class. Problems setup	4	Comprehension and problem solving	6
S9	First term test	Individual test	2	Test preparation	3
S10	Lesson 5	Master class. Problems setup	4	Comprehension and problem solving	6

S11	Lesson 5	Master class. Problems setup	4	Comprehension and problem solving	6
S12	Lesson 6	Master class. Problems setup	4	Comprehension and problem solving	6
S13	Lesson 6	Master class. Problems setup	4	Comprehension and problem solving	6
S14	Lesson 7	Master class. Problems setup	4	Comprehension and problem solving	6
S15	Lesson 7	Master class. Problems setup	4	Comprehension and problem solving	6
S16	Second term test	Individual test	2	Test preparation	3

PWH: Presential Working Hours

NPWH: Non-presential Working Hours

Evaluation

Continuous evaluation

The final mark of the course is composed of the following blocks and weights:

- First term exam: 40% (minimum mark of 4 points)
- Second term exam: 35% (minimum mark of 4 points)
- Case studies: 10%
- Exercises and questionnaires: 15%

Score ranges from 0 to 10 points. A minimum mark of 4 points is required in each exam.

The activities must be submitted through the Campus Virtual site within the period given. The activities' mark will assess both presentation, the correct application of the techniques and the results interpretation.

Alternative evaluation / Avaluació alternativa

Students who have the approval to be assessed through "Avaluació alternativa" (see requirements and procedure in the "Normativa d'avaluació" regulation) must carry out the following activities on the stipulated delivery dates.

- First term exam: 40% (minimum mark of 4 points)
- Second term exam: 35% (minimum mark of 4 points)
- Case studies (individual format): 10%
- Exercises and questionnaires (individual format): 15%

The requirement to obtain a minimum mark of 4 points in the alternative evaluation also apply to this assessment system.

The activities must be submitted through the Campus Virtual site within the period given. The activities' mark will assess both presentation, the correct application of the techniques and the results interpretation.

Bibliography

Richard B. Chase, F. Robert Jacobs (2018): Administración de Operaciones. Producción y cadena de suministro. McGraw Hill Education 15ª Edición.

Mark M. Davis, Nicholas J. Aquilano, Richard B. Chase (2001): Fundamentos de Dirección de Operaciones. McGraw Hill. 3ª Ed.

Esteban Fernandez, Lucía Avella, Marta Fernández (2006): Estrategia de producción. McGraw Hill.

Jay Heizer, Barry Render (2015): Dirección de la producción y de operaciones. Decisiones estratégicas. Pearson PrenticeHall.

Jay Heizer, Barry Render (2015): Dirección de la producción y de operaciones. Decisiones tácticas. Pearson Prentice Hall.

Roberta S. Russell, Bernard W. Taylor (2019): Operations and Supply Chain Management. WileyPLUS (10th Edition)

Juan Velasco Sánchez (2013): Organización de la Producción. Distribuciones en planta y mejora de los métodos y los tiempos. Pirámide. 3ª Edición.