



PERSONA CIENCIA EMPRESA
Universitat Ramon Llull

TITLE OF COURSE: OPERATIONS MANAGEMENT

MATTER: Operations Management

MODULE: Common to Industry

Branch PROGRAM TITLE: Degree on Industrial Technologies Engineering

GENERAL CHARACTERISTICS*

Type: Basic training, Compulsory elective, Optional

Final degree project, Practicum

Duration: Semiannual

Semester/s: 6

Number of credits ECTS: 4

Language/s: Spanish

DESCRIPTION

BRIEF DESCRIPTION AND JUSTIFICATION (the meaning of the course in relation to the studies. Between 100 and 200 words.)

It analyzes the main issues in the field of Industrial Organization (Productivity, Production Systems, Value Chain, Organizational Structure, Strategies Distribution, Production and Procurement, Integrated Planning and Information Systems).

COMPETENCES (of the course made in relation to preassigned competences in this area.)

- Ability to solve problems with initiative, decision making, creativity, and critical thinking (E4).
- Ability to communicate effectively, both orally and in writing, to transmit knowledge, skills and abilities in the field of engineering industrial (T1).
- Strong organizational and planning in the field of enterprise and other institutions and organizations (T4).
- Basic knowledge of production and manufacturing systems (CRI9).
- Applied knowledge of business organization (CRI11).

PREREQUISITES* (modules, matters, courses and knowledge needed to follow the course. Can be stated that courses must have been completed.)

Competences of the earlier educational stages.

CONTENTS (as a relationship of the chapters that constitute the contents, or topics covered, of the course to a second level detail.)

1. Introduction to Operations Management. Introduction. Address History Operations. The Directorate of Operations in the current company. Roles and responsibilities of the Directors of Operations. New trends in Operations Management. The concept of productivity. Ethical Commitment Director of Operations.
2. Operations Strategy in a Global Environment. The Operations as Competitive Edge - Global Vision Operations. Decisions Strategic Operations Management. Operations strategy. Strategic Options for Global Operations.
3. Project Management. The strategic importance of project management. Project planning. Project schedule. Project Control. Techniques Project Management: PERT and CPM.

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Comments to PERT and CPM techniques.

4. Strategy of the production process. Process Strategies. Comparison different processing strategies. Analysis and design of processes. Alternatives production technology. Process Reengineering. Ethical and ecological processes.

5. Supplement Item 4. Capacity, design capacity and effective capacity or real. Utilization, Efficiency, OEE, MTBF and MTTR. Breakeven Analysis or neutral (Breakeven Point). Application of decision trees in capacity decisions. Project Investment Analysis: NPV, IRR and Payback.

6. Lay-out strategy. The strategic importance of the layout. Layout design. Layout Types. Flexible Manufacturing Systems (FMS). Work Center focused. Factory focused.

7. Production Systems Just in time (Just in Time) and Lean Manufacturing (Lean Manufacturing). The JIT philosophy. Lean Production System (Lean Manufacturing). The 5 S and Lean Manufacturing.

8. Address Supply Chain. The value chain in business la. Strategic Importance of Supply Chain. Chain Strategies Supplies. Ethics in the Supply Chain. Integrated Chain Supplies. Internet shopping (e-procurement). Vendor Selection. Distribution systems. Warehouse Management.

9. Inventory management. Introduction. Inventory functions. Types inventories. Inventory management. Inventory models: Economic Quantity Order (EOQ), reorder point, quantity discounts Model, Models Stock probabilistic Security Other probabilistic models, System Fixed Period.

10. Planning material requirements (MRP) and ERP. Inventory model with Dependent Demand: Master Production Schedule (MPS), Bill of Materials (BOM), requirements for the MRP run. Structure of the MRP. MRP management. Extensions of MRP. Resource Planning Distribution (DRP). Resource Planning Company (ERP).

METHODOLOGY

TRAINING ACTIVITIES*

Training activities	ECTS Credits	Competences
Sessions presentation of concepts (A1)	1,2	
Sessions for resolution of exercises, problems and cases (A2)	0,6	
Seminars (A3)		
Personal mandatory activities professor-student (A4)		
Practical work / laboratory (A5)		
Oral and writing presentations (A6)	0,2	
Personal study activities by students (A7)	1,6	
Evaluation activities (exams, tests,...) (A8)	0,2	
Jobs (A9)	0,2	
Visits to companies (A10)	0	
TOTAL	4	

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EXPLANATION OF THE TEACHING METHODOLOGY (justifying the teaching methods used in relation to the competences and course contents. Between 100 and 200 words.)

Classes consist of lectures by the teacher, interspersed with exercises and cases and to resolve lustrations students. In these asked also to analyze topical articles published or in press journals, as well as documentaries and videos displayed in class.

EVALUATION

EVALUATION METHODS* (Fill in the table relating evaluation methods, competences and weight in the qualification of the subject.)

Evaluation Methods	Weight	Competences
Final Exam (A)	50%	
Examination / s Partial / s / control / s scheduled / s (B)		
Activities done in class (C)	10%	
Exercises outside of class (D)	10%	
Reports realizats work (E)	10%	
Presentations and / or oral examinations (F)	10%	
Modeling, Proposed, etc.. (G)	0%	
Laboratory reports (H)	0%	
Practical work / lab (I)	0%	
Work in other centers (Practicum) (J)	10%	

LEARNING OUTCOMES (Explanation of the achievements of students that allow competences evaluation, relating to competences and evaluation methods.)

The student must demonstrate:

- knowledge to solve problems with initiative, creativity and reasoning critical (E4).
- Ability to effectively communicate and express their knowledge, ideas and projects in the field of industrial engineering, both orally and in writing (T1).
- Ability to plan and organize to solve problems and tasks assigned to them (T4 and CR111).
- Basic knowledge of different production strategies and Chain Supply (CR19).

QUALIFICATION (Explanation of the calculation system of qualifying the course.)

The course evaluation will consider all aspects listed in the table assessment with its corresponding weight.

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TITLE OF COURSE: INDUSTRIAL ORGANIZATION

MATTER: Industrial Organization

MODULE: Common to Industry Branch

PROGRAM TITLE: Degree on Industrial Technologies Engineering

EVALUATION OF COMPETENCES (Defining expressions of calculation for each competence based on corresponding evaluations activities.)

The table below is a summary of the evaluation of the different jurisdiction of the subject:

Competence	Evaluation Method
E4	Problems test (A). Activities in class (C). Exercises done outside of class (D).
T1	Presentations and / or oral examinations (F)
T4,CRI9 y CRI11	Reports and work performed (E).

TEXTBOOKS (recommended and accessible to students.)

- HEIZER, J. y RENDER, B. (2008, 8ª Ed.) *Dirección de la Producción y de Operaciones. Volumen I – Decisiones estratégicas.* Pearson Educación: Madrid.
- HEIZER, J. y RENDER, B. (2008, 8ª Ed.) *Dirección de la Producción y de Operaciones. Volumen II – Decisiones tácticas.* Pearson Educación: Madrid.
- CHASE, Richard B. – AQUILANO, Nicholas J. *Dirección y Administración de la Producción y de las Operaciones.* Ed. Addison Wesley Iberoamericana, 1994.
- DOMINGUEZ MACHUCA, J.A. (1995) *Dirección de Operaciones. Aspectos Estratégicos.* McGraw-Hill.
- DOMINGUEZ MACHUCA, J.A. (1995) *Dirección de Operaciones. Aspectos Tácticos.* McGraw-Hill.
- FOGARTY, BLACKSTONE, HOFFMANN. (1991) *Production & Inventory Management.* South-Western Publishing Co.
- ROBESON, COPACINO. (1994) *The Logistics Handbook.* MacMillan Inc.
- HALL, R.W. (1983) *Zero Inventories.* Dow Jones-Irwin.
- HALL, R.W.. (1987) *Attaining Manufacturing Excellence.* Dow Jones-Irwin.
- SCHONBERGER, R.J. (1991) *Hacia la excelencia en la fabricación.* Espasa-Calpe. Título original: *World Class Manufacturing.* Richard J. Schonberger and Associates, Inc.

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HISTORICAL DOCUMENT

EARLIER CHANGES

July 2012. Prof. Francisco Amaro Martínez

LAST REVISION

May 8, 2015. Dr. María Luisa Espasa