

Operations Management II

Code: 102392
ECTS Credits: 6

| Degree | Type | Year | Semester |
|--|------|------|----------|
| 2501572 Business Administration and Management | OT | 4 | 0 |

Contact

Name: Víctor Giménez García
Email: Victor.Gimenez@uab.cat

Use of languages

Principal working language: catalan (cat)
Some groups entirely in English: Yes
Some groups entirely in Catalan: No
Some groups entirely in Spanish: Yes

Teachers

Alexandra Simon Villar

Prerequisites

There is not prerequisite knowledge to take this course

Objectives and Contextualisation

To show the concepts and techniques used within the area of operations, both in industrial and service companies, but with special emphasis on the latter

To learn the techniques that are used to manage the supply chain (SCM)

To learn the techniques and tools for project management

To introduce the concepts associated with the processes management (BPM) through its modeling and simulation

To introduce the concepts of quality management

To know and use professional software for operations management

Skills

- Apply mathematical instruments to synthesise complex economic-business situations.
- Apply theoretical knowledge to improve relations with clients and suppliers, identifying the advantages and disadvantages of those relations for both sides: company and client or supplier.
- Capacity for adapting to changing environments.
- Capacity for independent learning in the future, gaining more profound knowledge of previous areas or learning new topics.
- Capacity for oral and written communication in Catalan, Spanish and English, which enables synthesis and oral and written presentation of the work carried out.
- Demonstrate initiative and work individually when the situation requires it.
- Identify, justify and reason the appropriate decisions according to the basic parameters of a business problem.
- Organise the work in terms of good time management, organisation and planning.

- Select and generate the information necessary for each problem, analyse it and take decisions based on that information.
- Show motivation for carrying out quality work and sensitivity to the consequences for the environment and society.
- Take decisions in situations of uncertainty, demonstrating an entrepreneurial and innovative attitude.
- Use of the available information technology and adaptation to new technological environments.
- Value ethical commitment in professional practice.
- Work well in a team, being able to argue proposals and validate or reject the arguments of others in a reasoned manner.

Learning outcomes

1. A capacity of oral and written communication in Catalan, Spanish and English, which allows them to summarise and present the work conducted both orally and in writing.
2. Apply algorithmic resolution techniques to optimisation problems.
3. Apply the basic principles of modelling in business decision-making.
4. Assess ethical commitment in professional activity.
5. Capacity to adapt to changing environments.
6. Capacity to continue future learning independently, acquiring further knowledge and exploring new areas of knowledge.
7. Demonstrate initiative and work independently when required.
8. Demonstrate motivation regarding the quality of the work performed and sensitivity regarding the consequences on the environment and society.
9. Differentiate between alternative methods of analysis, and apply the appropriate quantitative tools to resolve business management problems.
10. Make decisions in situations of uncertainty and show an enterprising and innovative spirit.
11. Model the management of business operations by applying quantitative support techniques.
12. Organise work, in terms of good time management and organisation and planning.
13. Select and generate the information needed for each problem, analyse it and make decisions based on this information.
14. Solve problems optimising and obtaining forecasts through information technology applications.
15. Use available information technology and be able to adapt to new technological settings.
16. Use forecasting techniques in business contexts.
17. Work as part of a team and be able to argue own proposals and validate or refuse the arguments of others in a reasonable manner.

Content

1. PROJECT MANAGEMENT

Types of projects
 Techniques for project management
 GANTT chart
 ROY chart
 PERT / CPM chart
 Resources and projects
 Resource balancing
 Costs and projects
 Software for project management

2. FACILITIES LOCATION

Features of the location decisions
 Score models
 Center of gravity models
 Median geometric models

Cost Models
Coverage models

3. SIMULATION

Concept and usefulness of the simulation
Methodology for simulation
Main statistical distributions. Approximation of observed data to theoretical distributions. Stat :Fits software
Introduction to Simio software

4. QUALITY MANAGEMENT

Principles and definitions of quality
Dimensions of quality. Quality of Service
The cost of the quality
Models for quality management: ISO 9000 and EFQM
Failure Mode and Effect Analysis (FMEA)
Statistical Process Control (SPC)
Poka-Yokes systems

5. BUSINESS PROCESS MANAGEMENT

General concepts and definitions
Types of processes
Relationship between processes and projects
Application to quality systems ISO and EFQM
Process Map
Description and representation of processes. PROCESS MAPPING
Key performance indicators
Process Improvement
Continuous improvement

6 PRODUCTION MANAGEMENT WITH ERPs: THE CASE OF SAP

Introduction to SAP
Product files, routing and processing centers
Forecast Sales
The SOP, MRP and MPS

Methodology

Through the course the different chapters of the course will be developed.
Usually a series of materials and activities will have to be worked by the student prior to the classes to motivate and improve the comprehension of the subject.
Through each chapter, a series of exercises and activities will be proposed to the students to reinforce the contents. These activities will be developed by reduced groups of students.
Each week the teachers will be available some hours to attend the students individually to solve any doubts they may have (tutorial time).

Activities

| Title | Hours | ECTS | Learning outcomes |
|-----------------------|-------|------|-----------------------------------|
| Type: Directed | | | |
| Lectures | 40 | 1.6 | 3, 2, 5, 6, 9, 11, 8, 10, 14, 13, |

Type: Supervised

| | | | |
|---|-----|-----|--|
| Personalized tutoring in the teacher office | 7.5 | 0.3 | 3, 2, 9, 11, 8, 12, 10, 14, 13, 16, 15 |
| Work sessions with software | 5 | 0.2 | 3, 2, 6, 7, 11, 14, 13, 17, 16, 15 |

Type: Autonomous

| | | | |
|--|------|------|---------------------------------------|
| Study of the proposed materials, preparation of exercises and suggested activities | 95.5 | 3.82 | 3, 2, 6, 7, 11, 8, 10, 14, 13, 16, 15 |
|--|------|------|---------------------------------------|

Evaluation

There is not final exam. The continuous appraisal will consist in five practises:

- BMP (15%)
- Quality management (15%)
- Facilities location(20%)
- Project management (15%)
- Production module of SAP (10%)
- Simulation (25%)

The simulation practice will be presented in the classroom.

At the end of the course, each professor will publish the final qualifications and the date, time and place of the exam review. In the case of a grade below 4, the student will have to course the subject again the following academic year. For those students with a grade equal or greater than 4 and smaller than 5 a second appraisal will take place. Each teacher will decide the second appraisal methodology. As a result of this second appraisal the maximum grade achieved will be 5. A student not participating in any appraisal activity will be considered as "Not Assessed"

Evaluation activities

| Title | Weighting | Hours | ECTS | Learning outcomes |
|----------------------|-----------|-------|------|---|
| Continuous appraisal | 100% | 2 | 0.08 | 3, 2, 5, 1, 6, 7, 9, 11, 8, 12, 10, 14, 13, 17, 16, 15, 4 |

Bibliography**Basic Bibliography:**

- Heizer, I. y Render, B. (2007): Operations Management. 8ª edición. Prentice-Hall.

Additional Bibliography:

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- Companys, R. y Fonollosa, J.B. (1999): Nuevas técnicas de Gestión de stocks: MRP i JIT. 1ª edición. Marcombo.

- Gaither, N y Frazier, G. (2000): Administración de Producción y Operaciones. 4ª edición. Thomson Editores.
- Greasley, A. (2005): Operations Management. 1ª edición. John Wiley & sons
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- Slack, N, Chambers, S, y otros. (1998): Operations Management. 2ª edición Ed. Pitman Publishing
- Marc J Schnierderjans and Qing Cao. (2002) E-Commerce Operations Management. 1ª edición. World Scientific
- Schroeder, R. G. (2011): Administración de Operaciones. 5ª edición. McGraw-Hill
- Verge, X. y Martínez J.L.(1992): Estrategia y Sistemas de Producción de las Empresas Japonesas. 1ª edición. Gestió 2000