

Operations Management

Code: 102182
ECTS Credits: 6

Degree	Type	Year	Semester
2501232 Business and Information Technology	OB	3	1

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

Contact

Name: Daniel Blabia Girau
Email: Daniel.Blabia@uab.cat

Use of Languages

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

Prerequisites

none

Objectives and Contextualisation

The subject considers the following teaching objectives;

- Introduce the student in the functional area of Operations, in its strategic and operational aspects, both manufacturing companies and specially services.
- Present the modern approach of the Production Management (Operations Management) as a foundation to achieve the integrated management of the company, placing the production system as a union of the supply, manufacturing and distribution subsystems looking for the optimization of material flows and showing its relationship with the Management and Commercial Control systems.
- That the student is able to evaluate by a company, the strategic decisions (design of goods and services, design of productive capacity, design of quality systems, ...), tactics (planning of the activity, planning of the quality, ...) and operational (allocation of resources, control and measurement of performance and quality, ...) within the scope of Operations Management.
- Train the student in the design of the layout of a production process to evaluate the resources that are necessary for its correct operation and budgeting.
- To provide the student with the theoretical concepts and methodologies and techniques necessary to achieve all of the above.

Competences

- Analysing, diagnosing, supporting and taking decisions in terms of organisational structure and business management.
- Capacity for working in teams.
- Demonstrating a comprehension of the principles, structure, organisation and inner workings of companies and organisations.
- Demonstrating a sensibility towards social and environmental issues.
- Demonstrating creativity and initiative.
- Identifying, analysing and solving complex problems and situations related to company organisations.

- Students must be capable of applying their knowledge to their work or vocation in a professional way and they should have building arguments and problem resolution skills within their area of study.
- Students must be capable of collecting and interpreting relevant data (usually within their area of study) in order to make statements that reflect social, scientific or ethical relevant issues.
- Students must be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.
- Students must develop the necessary learning skills in order to undertake further training with a high degree of autonomy.

Learning Outcomes

1. Appropriately drawing up technical reports according to the customer's demands.
2. Carrying out different oral presentations for different audiences.
3. Demonstrating a sensibility towards social and environmental issues.
4. Demonstrating creativity and initiative.
5. Describing a system of management of operations and their basic functions, differentiating the types of transactions carried out.
6. Designing specific systems of management of operations in accordance with the proposed goals, including the planning of their implementation.
7. Develop critical thinking and reasoning.
8. Developing operations management strategies, defining specific objectives and designing measures of success from their implementation.
9. Identifying the resource requirements of an organisation to manage their operations, in order to achieve the proposed objectives and targets.
10. Interpreting the implications of the corporate strategy of a company for its functional area of operations.
11. Students must be capable of applying their knowledge to their work or vocation in a professional way and they should have building arguments and problem resolution skills within their area of study.
12. Students must be capable of searching and analysing information of different sources.
13. Students must develop the necessary learning skills in order to undertake further training with a high degree of autonomy.
14. Working in teams, sharing knowledge and communicating it to the rest of the team and the organisation.

Content

SUBJECT I - INTRODUCTION TO THE OPERATIONS MANAGEMENT

- Operations as a source of competitive advantage
- Production strategies
- Logistic system Evolution.
- The Operations Management in service companies.

SUBJECT II - CAPACITY AND PERFORMANCE MEASURES

- Capacity of a process
- Bottleneck.
- Capacity planning
- Changes in capacity over time
- Productivity.
- The concepts of utilization, effectiveness and efficiency of a productive system.

SUBJECT III - DESIGN AND PROCESS PLANNING

- Layout
- Process planning
- Balanced production lines
- Process design with the use of simulators (Ape)

SUBJECT IV - THE PLANNING OF PRODUCTION

- Hierarchy of planning decisions.
- The planning process
- Aggregate planning
- The Master Production Plan (MPS).

SUBJECT V - THE PLANNING OF THE NEEDS OF MATERIALS

- The product definition (BOM)
- The Material Needs Planning (MRP I).
- The end capacity plan
- Complementary planning methods

SUBJECT VI - PRODUCTION PROGRAMMING

- Programming concepts (forward and backward)
- Programming of facilities focused on process
- Sequencing of works

SUBJECT VII - THE MANAGEMENT OF INVENTORIES WITH INDEPENDENT DEMAND

- ABC Analysis.
- Inventory management costs.
- EOQ model.
- The Point of Order (Q) system.
- The fixed period system (P).
- Other inventory management methodologies

SUBJECT VIII - LEAN MANUFACTURING

- Principles of LEAN
- JIT and Total Quality

Methodology

To reach the indicated competences as naturally as possible, the theoretical sessions will combine the presentation of theoretical concepts with the resolution of practical exercises.

All material will be made available to the students in the virtual campus.

Specific hours of specific teaching are specified in practices that will be used to explain specific software to solve operational problems.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Lab practices	10	0.4	4, 9
Presentation of casses	5	0.2	4, 5, 2, 1, 14
practical Classes	10	0.4	7

theoretical Classes	24.5	0.98	5, 10
Type: Supervised			
Tutorials	18	0.72	7, 14
Type: Autonomous			
Preparation of works	31.5	1.26	3, 5, 8, 9, 10, 1, 12, 14
Realization of cases	14	0.56	9, 11
Study of given materials	34	1.36	5

Assessment

General conditions:

The subject is evaluated with two components, continuous evaluation and individual tests.

The continuous evaluation contemplates group work according to the distribution included in the summary table of the evaluation activities. Together they will have a weight of 50% of the final grade of the subject. Its main aim is to facilitate the student's achievement of knowledge and skills of the subject. This option requires both parties (teachers and students) an effort and commitment that must be known and recognized.

Each component will be evaluated by the teaching team and the students will receive a comment with their note on those aspects that should be improved.

At the beginning of the course the teacher will detail and publish in the Moodle classroom contents and individual weights of each one.

Any student whose name appears in at least two installments will be considered "evaluable".

For a correct follow-up of the subject and its evaluation, the following norms are also established:

- Deliveries after the deadline, in formats different from those required or through channels other than those stipulated, will be considered as non-delivered.
- If in group work a student is considered not to have made the expected contributions to the group, he/she can receive a differentiated score from the rest of the classmates, which can be a zero if the rest of the classmates so rate it.

The students must also sit two different individual tests:

Intermediate Exam. At the request of students from previous courses, students will have the option of releasing material for the final exam. In order to pass this first part, it will be necessary to obtain more than 5 and this mark will average with that of the final exam (second part). If the student obtains less than 5 but more than 3.5, he can choose to average with the final exam (second part). Both those who have less than 3.5 and those who choose to attend the final exam (first and second part) must take the complete final exam (both parts) and the grade obtained will be the grade that will be promised with the continuous evaluation. The final exam will be a final written test on concepts and aspects covered throughout the course both in class and in the papers presented, as well as any type of material shared on the virtual campus. It consists of two parts, the first with the topics worked up to the liberating exam and the second with the topics seen until the end of the course. The students have in the moodle a battery of solved exercises as well as exams of previous courses and their corrections to be able to see the type of exercises that can go out to the exam. The exam will have theoretical and practical components always trying to assess the degree of understanding of the subject.

The final test will be a final written test about concepts and aspects treated throughout the course.

The students have a set of solved exercises in the moodle, as well as exams from previous courses and their corrections in order to see the type of exercises that can be found in the exam.

The exam will have theoretical and practical components, always trying to assess the degree of understanding

of the subject. To be able to average with the continuous evaluation, both the grade of the final test and the average of the continuous evaluation must be at least 3 points out of 10. If the final grade does not reach 5 points but exceeds 3.5, the student may perform a re-evaluation test in the conditions detailed below.

Schedule of evaluation activities The dates of the different evaluation activities (exercises, delivery of works, etc.) will be announced well in advance during the semester. The date of both the intermediate and the final exam of the subject is scheduled in the exam calendar of the Faculty. "The programming of the evaluation tests can not be modified, unless there is an exceptional and duly justified reason why an evaluation act can not be carried out. In this case, the persons responsible for the qualifications, after consulting the teaching staff and the affected student, will propose a new date within the corresponding academic period. " Section 1 of Article 115. Calendar of evaluation activities (Academic Regulations UAB).

The students of the Faculty of Economics and Business who, according to the previous paragraph, need to change an evaluation date must present the request by filling in the document Request reprogramming proof https://eformularis.uab.cat/group/deganat_feie/solicitud-reprogramming-of-proofs

Procedure for review of qualifications

Coinciding with the final exam will be announced the day and means of publication of the final grades. Likewise, the procedure, place, date and time of the revision of the same will be informed according to the regulations of the University.

Recovery Process

"To participate in the recovery process the students must have been previously evaluated in a set of activities that represent a minimum of two thirds of the total grade of the subject or module." Section 3 of Article 112 ter. The recovery (UAB Academic Regulations). The students must have obtained an average grade of the subject between 3.5 and 4.9.

The date of this test is scheduled in the exam calendar of the Faculty. The student who presents himself and passes it will pass the subject with a grade of 5. Otherwise, he/she will keep the same grade.

Irregularities in evaluation acts

Without prejudice to other disciplinary measures deemed appropriate, and in accordance with current academic regulations, "in the event that the student makes any irregularity that could lead to a significant variation in the grade of an evaluation act, it will be graded with a 0.

This evaluation act, regardless of the disciplinary process that can be instructed In case of various irregularities occur in the evaluation acts of the same subject, the final grade of this subject will be 0 ". Section 10 of Article 116. Results of the evaluation. (UAB Academic Regulations)

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Business work	30%	0	0	4, 5, 8, 2, 10, 12
Exam results	50%	3	0.12	8, 6, 9, 10, 13, 11
Hats report	5%	0	0	4, 5, 7, 6, 2, 9, 1
MRP classwork	15%	0	0	4, 3, 5, 9, 13, 11, 1, 12, 14

Bibliography

- Videos and publications at aula Moodle
- Heizer, I. y Render, B.: Dirección de la Producción (Decisiones tácticas). Prentice-Hall.
- Heizer, I. y Render, B.: Dirección de la Producción (Decisiones estratégicas). Prentice-Hall.

- Heizer, I. and Render, B.: Operations Management. Prentice-Hall.

Software

The students do some laboratory practices in excel where the more advanced get to program.

All the presentations can be done with any presentation programm.