Operations Management

Code: 102094
ECTS Credits: 6

2025/2026

Degree	Type	Year
Accounting and Finances	OB	3

Contact

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Teachers

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Teaching groups languages

You can view this information at the end of this
document.

Prerequisites

The course does not require any prior knowledge to take it.
Obviously, the administrative requirements must be met to enroll.

Objectives and Contextualisation

The subject considers the following teaching objectives:

- Introduce the student to the functional area of Operations, in its strategic and operational aspects, both for industrial and service companies.
- Present the modern approach of the Operations Management as a foundation to achieve the integrated management of the company, that is, the synchronization of the the procurement, manufacturing and distribution subsystems seeking the optimization of material flows and showing its relationship with the Management and Commercial Control systems.
- That the student is able to evaluate for a company, strategic decisions (design of goods and services, design of productive capacity, ...), tactics (planning of the activity) and operational (allocation of resources, measurement of productivity and continuous improvement) in the field 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.

- Provide the student with those theoretical concepts and methodologies and techniques necessary to achieve all of the above.

Learning Outcomes

1. CM29 (Competence) Defend a business strategy for all areas and functions with decisions, actions, approaches and objectives.
2. CM30 (Competence) Discover the effects of the general and sectoral environment on the competitive situation of the business organisation.
3. CM31 (Competence) Assess the resources and capacities of the business organisation.
4. CM33 (Competence) Create a feasible programme to implement the organisation's strategy.
5. KM24 (Knowledge) Determine actions to implement a process of change in the internal sphere of companies and organisations.

Content

Topic I - INTRODUCTION TO OPERATIONS MANAGEMENT

- Operations as a source of competitive advantage Production strategies.
- Logistics system and its Evolution.
- The Directorate of Operations in service companies.
- Principles of the Lean Manufacturing Philosophy.

Topic II - CAPACITY AND PERFORMANCE MEASURES

- Capacity of a process.
- Bottleneck.
- Capacity planning.
- Capacity changes over time.
- Productivity.
- The concepts of use, effectiveness and efficiency of a production system.

Topic III - PROCESS DECISIONS

- Product Definition
- Types of production Layout.
- Work study.
- Process Operation Diagrams.
- Production lines.
- Balancing of production lines.

Topic IV - PRODUCTION PLANNING

- Hierarchy of planning decisions.
- The Aggregate Planning process.
- Methods to develop the Master Production Plan (MPS).

Topic V - THE PLANNING OF THE NEEDS OF MATERIALS

- Product definition and Bill of Materials (BOM).
- Material Requirements Planning (MRP).
- Releases of production and purchase orders.

UNIT VI - PROJECT PLANNING

- Definition and types of projects.
- Temporary planning of projects.
- Resource planning.
- Critical path and resource over-allocation.
- Project reports.

UNIT VII - PRODUCTION SCHEDULING

- Programming criteria.
- Heuristic Methods for Programming with several machines.
- Job Sequencing Process.
- Johnson's algorithm.

UNIT VIII - INVENTORY MANAGEMENT WITH INDEPENDENT DEMAND

- ABC analysis and rotations
- Inventory management costs.
- EOQ model.
- The Reorder Point (Q) system.
- The fixed period system (P).

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
laboratory practice	25	1	CM31, CM33, KM24, CM31
Theorical Classes	24.5	0.98	CM29, CM30, CM29
Type: Supervised			
Tutorships	19	0.76	CM29, CM30, CM31, CM33, KM24, CM29
Type: Autonomous			
Fulfillment of cases	11.5	0.46	CM31, CM33, KM24, CM31
Study the given materials	31	1.24	CM31, CM33, KM24, CM31
Workshops and Cases Elaboration	31	1.24	CM29, CM30, CM31, CM33, KM24, CM29

The planned teaching for the subject is classroom teaching.

Throughout the course, the different program topics will be covered. All materials will be available on the Virtual Campus, and it is recommended that students study the topic to be covered beforehand to motivate and improve their understanding.

To achieve the indicated competencies as naturally as possible, the sessions will combine the presentation of theoretical concepts with practical exercises.

Some hours of specific teaching in group practice are listed. These hours will be used to complete case studies and workshops (document preparation) and to learn specific software for project planning (laboratory practices).

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.

Assessment

Continous Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Classroom test #1	10%	0.5	0.02	CM31, KM24
Classroom test #2	10%	0.5	0.02	CM31, KM24
Final Exam	40%	2	0.08	CM29, CM30, CM31, CM33, KM24

Paper Airplane Manufacturing Report Document	5 %	1	0.04	CM31, KM24
Partial Exam (Midterm exam)	25%	2	0.08	CM29, CM30, CM31, CM33, KM24
Project Development & planning	5%	1	0.04	CM29, CM31, CM33, KM24
SAP Exercice	5 %	1	0.04	CM31, CM33, KM24

This subject does not offer the option for comprehensive evaluation.

The evaluation of the students will be carried out according to the following activities of continuous assessment :

- Paper Airplane Game Activity Report (group) - 5%
- Classroom Test #1 - 10%
- Midterm Exam (PE) - 25%
- Project Planning, using MS Project or similar (group) - 5%
- Classroom Test #2 - 10%
- SAP Practice - 5%
- Final Exam (FE) - 40%

Tests and exams will be individual. No computer will be used.

Midterm exam: this exam covers the first part of the subject and includes theoretical questions and problems.

As a continuous assessment system, to be eligible to take the final exam, the following requirements must be met:

- A minimum grade of 4 out of 10 from the arithmetic mean of activities 1, 2, 4, and 5.
- At least 3 deliveries of these activities must be made.

If both requirements are not met, the subject is definitively failed, and the grade will be the result of the weightings or a 4.8 (if the grade obtained is higher). If this is met, the student may take the final exam and continue with the continuous assessment of the subject:

- The final exam will cover the second part (topics after the midterm exam, therefore, the course is relieved) and will include the theoretical section and problems.
- The final qualification (FQ) will be the percentage of the 7 continuous activities: GRQ (general rule qualification) = (Airplane Game)*5% + (Test #1)*10% + (PE)*25% + (Project)*5% + (Test #2)*10% + (SAP Practice)* 5% + (FE)*40%
- And with these possibilities:

a) If the qualification of PE and FE $\geq$ 3

- If GRQ $\geq$ 5 --> FQ= GRQ (subject passed)
- If GRQ [3.5, 5) --> Retake
- If GRQ <3.5 --> FQ=GRQ (subject failed)

b) If the qualification of PE and/or FE < 3

- Si la GRQ $\geq$ 3.5 --> Retake
- Si la GRQ <3.5 --> NF=GRQ (subject failed)

c) If retake exam (RE)

- Si RE$\geq$ 5 --> FQ= 5 (subject passed)
- Si RE< 5 --> (subject failed)
FQ= GRQ , si GRQ <5
FQ= 4.8, si GRQ $\geq$ 5

The student who has not participated in any of the assessment activities will be considered "Not evaluable".

<u>Retake exam</u>: will cover all the material in the subject.

<u>Honor qualification</u>: if the grade is not sufficient, the professor may propose a final project to the student to achieve this grade.

<u>Repeat students</u>: students who retake the course may opt to skip the continuous assessment and take both exams (EP and EF) as long as they have obtained a grade higher than 7 in the Aircraft Project, Project Planning, and SAP Practice. For the calculation of the GRQ, grades of 5 out of 10 for these three activities will be used.

Use of AI

Use prohibited.

The use of Artificial Intelligence (AI) technologies is not permitted in any phase of this subject. Any work that includes AI-generated sections will be considered a breach of academic dishonesty and may result in a partial or total penalty on the assignment grade, or greater penalties in serious cases.

Calendar of evaluation activities

The dates of the evaluation activities (exercises in the classroom,assignments, ...) will be announced well in advance during the semester (Campus Virtual). The dates of the final exam and mid-term exam are scheduled in the assessment calendar of the Faculty.

"The dates of evaluation activities cannot be modified unless there is an exceptional and duly justified reason why an evaluation activity can not be carried out. In thiscase, the degree coordinator will contact both the teaching staff and the affected student, and a new date will be scheduled within the same academic period to make up for the missed evaluation activity." Section 1 of Article 115. Calendar of evaluation activities (Academic Regulations UAB).

Students of the Faculty of Economics and Business, who in accordance with the previous paragraph need to change an evaluation activity date must process the request by filling out an "Application for exams' reschedule" on the Faculty website.

Grade revision process

After all grading activities have ended, students will be informed of the date and way in which the course grades will be published.

Students will be also be informed of the procedure, place, date and time of grade revision following University regulations.

Retake Process

The date of the retake exam will be posted in the calendar of evaluation activities of the Faculty.

Irregularities in evaluation activities

In spite of other disciplinary measures deemed appropriate, and in accordance with current academic regulations, "in the case that the student makes any irregularity that could lead to a significant variation in the grade of evaluation activity, it will be graded with a 0, regardless of the disciplinary process that can be instructed. In case of various irregularities occur in the evaluation 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).

Bibliography

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- Schroeder, R. G. (2011): Administración de Operaciones. 5ª edición. McGraw-Hill
- Verge, X. y Martínez J.L.(1992): Estratégia y Sistemas de Producción de las Empresas Japonesas. 1ª

Software

Students carry out laboratory practices where they learn the operation of the MS project or similar software for planning program, as well as the SAP HANA ERP (Production Planning module).

Groups and Languages

Please note that this information is provisional until 30 November 2025. You can check it through this link. To consult the language you will need to enter the CODE of the subject.

Name	Group	Language	Semester	Turn
(PAUL) Classroom practices	101	Spanish	second semester	morning-mixed
(PAUL) Classroom practices	501	Catalan	second semester	afternoon
(TE) Theory	10	Spanish	second semester	morning-mixed
(TE) Theory	50	Catalan	second semester	afternoon