

Name of the SUBJECT 2.2 PRODUCTION AND OPERATIONS MANAGEMENT	ECTS Credits 12 ECTS (300 hours), COMPULSORY.
Duration, format and temporal location within the study plan. This subject will be taught throughout the second year of the degree.	
Requirements None	
Languages English/Spanish	
Basic Competences <p>BC1. Students demonstrate possession and understanding of knowledge in an area of study that builds on the foundation of general secondary education, and is usually at a level that, while relying on advanced textbooks, also includes some aspects that involve knowledge from the cutting edge of their field of study.</p> <p>BC3. 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.</p> Transversal Competences <p>TC01 - COOPERATIVE: To know the values of the community in which he/she lives, respects and values them. Pride of belonging to the community and to the profession. To analyse the repercussion that the actions will have on the environment. Be supportive and generous, and sacrifice for their environment. (Believe in the dignity of all people and work to achieve it or to prevent it from being undermined. Participate in community work or activities that help to overcome unjust situations. To see others with the same value that one gives to oneself.</p> <p>TC03 - CRITICAL AND ANALYTICAL - Ability to identify, analyse and evaluate situations, ideas and information in order to formulate answers to problems, using logic and reasoning to identify the strengths and weaknesses of possible solutions or approaches.</p> General / Personal Competences: <p>GC2 Analyze in a logical way and from different perspectives and disciplines, the complex challenges they have to face, proposing creative solutions.</p> <p>GC3 Is able to cooperate to achieve a joint goal, actively seeking to build a personal and professional network</p> Specific / Professional Competences: <p>SC7 Knows and applies tools and processes to make decisions based on data.</p> <p>SC11 Knows and applies the tools, processes and methodologies for the organization and management of operations, oriented to the optimization and exploitation of opportunities.</p>	

Learning Outcomes

LO 2_2 Grounds the analysis of a complex problem/challenge by applying the scientific method of analysis appropriate to each situation.

LO 3_1 Recognises their weaknesses and strengths in their team and network relationships, assuming shared responsibilities.

LO 3_2 Participates actively in their teams and networks, sharing concerns and building contexts of trust.

LO 14_3 Master the tools and processes to leverage data

LO 18_2 Understands and understands tools, processes and methodologies for the organisation of operations management.

Brief summary of contents

Operations Management- Strategic decisions

- Product Design
- Process strategies
- Localization strategies
- Long-term Capacity strategies
- Lay-out Strategy
- Supply chain management
- Quality management (ISO, TQM, SPC)

Operations Management- Tactical decisions

- Demand forecasting techniques
- Sourcing/purchase management
- Inventory management
- Warehouse management
- Logistics
- Production processes
- Production planning: Long-term (Aggregate planning), Medium-term (MRP) and Short-term (Loading and Scheduling by operations research and heuristic rules)
- Lean Manufacturing: Just-in-time, TOC, Kanban, 5S, SMED

Information systems

Introduction to different IT/OT systems: ERP, EDI, Big Data, Data Mining, Business Intelligence, CRM, RFID, Cybersecurity.

Operations research

- Statement and structure of a Linear Programming Model
- Graphical method for LP problem solving.
- Simplex method.
- Solving LP problems with Excel Solver.
- Network models: Transportation model, Assignment method.
- Integer and binary Linear Programming Models.
- Application of the LP models to operations management problems.

Cost Accounting

- Introduction to Costs management
- Basic concepts of Costs management
- Cost classification
- Methodology of cost accounting
- Decision making

Training activities - Tools - Methodologies - Computer tools (include hours / %dedication)

- PBL (Project based learning) (3 ECTS, 75 hours)
- Teamwork with a Real company: Development of a report and presentation about the strategical decisions of a Real company. (2 ECTS, 50 hours)
- Individual and group reflections about real cases (0.5, 12.5 hours)
- Group dynamics (1,6 ECTS, 40 hours)
- Reading of articles: Best practises of real companies. (1 ECTS, 10 hours)
- Workshop simulating real supply chain: Beer game (0.1 ETCS, 2.5 hours)
- Online learning resources (1 ECTS, 25 hours)
- Individual and group feedback (0.4 ECTS, 10 hours)
- Business Simulator (1 ECTS, 25 hours)
- External visits (0,4 ECTS, 10 hours)
- Mentoring and individual monitoring (0.5 ECTS, 12.5 hours)
- Community service-learning activities (0.5 ECTS, 12.5 hours)

Evaluation system

All subjects will be evaluated through the continuous assessment system through which constant information is provided to both teachers and students of the learning process throughout the academic period. As an indication, the criteria that will govern the evaluation system of the degree are as follows:

- Those training activities oriented to the acquisition of knowledge and in which individual study predominates may be evaluated with oral and/or written tests that will correspond to a maximum of 40% of the final grade.

- On the other hand, those training actions aimed at the acquisition of the practical skills of the subjects will be evaluated through the completion of different activities (work, cases, solving challenges, etc.) corresponding, as a whole, at least 60% of the final grade.

Bibliography

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