Course Unit	Operations Management			Field of study	Management	
Bachelor in	Management			School	School of Technology and Management	
Academic Year	2021/2022	Year of study	2	Level	1-2	ECTS credits 6.0
Type	Semestral	Semester	2	Code	9147-707-2202-00-21	

Workload (hours)	162	Contact hours	T	-	TP	60	PL	-	TC	-	S	-	E	-	OT	-	O	-

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s)	Francisco José Basílio Pimentel Pires Peito, Maria Clara Rodrigues Bento Vaz Fernandes

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:
1. Determine the reorder parameters for the deterministic and stochastic inventory' management models.
2. Identify the different types of productive systems and associated layouts; application of the MRP method in material requirements planning.
3. To distinguish Pull and Push systems.
4. To understand how Lean Production system works and it can be implement, as well as, some of its main support tools: 5S, SMED e Kanban.
5. Handle some tools regarding statistical processes control (control charts and samplings plans).
6. Determine the optimum number of reserve equipment, the optimum periodicity to replace equipment and their economic life.

Prerequisites

Before the course unit the learner is expected to be able to:
1. Dominate basic Statistics competences (descriptive, deductive and inductive).
2. Dominate basic competences in the area of social sciences and human resources.
3. Use the computer and working with electronic spreadsheets.

Course contents

Stocks' management. Production planning. Lean Tools. Quality control. Maintenance and equipment replacement .

Course contents (extended version)

1. Stocks' management
   - Stock costs
   - Economic quantity and norms of replenishment (continuous review method, periodic review method)
   - Quantity discounts and rationalization of the replenishment.
   - Stochastics models for continuous revision and periodic revision.
   - ABC classification
   - Introduction to logistics and supply chain
2. Production planning
   - Planning Function and production structures
   - Planning of production from order
   - Production planning by lots
   - Continuous production planning
   - Project production planning
   - Material requirements planning (MRP)
   - Pull and Push Systems
3. Lean tools
   - JIT (Just In Time). Toyota Production System (TPS).
   - Waste elimination
   - Lean Operations. Lean Production.
   - Kanban
   - SMED
   - 5S
   - Other Lean tools
4. Quality control
   - Inspection and reception control by sampling
   - Control charts by variables and attributes (changes, control limits, etc.)
   - Other quality tools
5. Maintenance and replacement of equipment's
   - Organization of the "Cabinet" of maintenance
   - Corrective and preventive maintenance
   - Maintenance efficiency (costs and ratios)
   - Replacement of equipment in group or individual
   - Determination of the economic life of the equipment
   - Determination of the optimal number of reserve equipment

Recommended reading

1. Courtois, A. , Pillet, M. , & Martin-Bonnefous, C. (2007). Gestão da Produção (5ª edição). Paris: Lidel.
2. Heizer, J. , Render, B. & Munson, C. (2017). Operations Management: Sustainability and Supply Chain Management (12th edition). London: Pearson Education Limited.
3. Jacobs, F. , & Chase, R. (2018). Operations and Supply Chain Management (15th edition). New York: McGraw-Hill Education.
4. Pinto, J. P. (2014). Pensamento Lean - A filosofia das organizações vencedoras. Lisboa: Lidel Edições Técnicas Lda.
5. Slack, N. , Brandon-Jones, A. , & Johnston, R. (2016). Operations Management (8th edition). London: Pearson.

Teaching and learning methods

The program will be taught essentially in presencial sessions-PS. The subsequent work should be developed either in SP or in non presencial sessions-NPS. The PS include the content presentations, analysis of small practical examples, the resolution of problems and clarification of doubts. In the NPS, the student should review the lectured contents and solve practical exercises from the worksheets.

Assessment methods

1. Weighted average of: - (Regular, Student Worker) (Final, Supplementary)
    - Intermediate Written Test - 50% (The weight of 50% implies that the evaluation includes the half of chapters proposed.)
    - Final Written Exam - 50%
2. Final classification - (Regular, Student Worker) (Final, Supplementary, Special)
    - Final Written Exam - 100%

Language of instruction

Portuguese

Electronic validation

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09-03-2022	10-03-2022	11-03-2022	14-03-2022