

## PRODUCTION MANAGEMENT AND OPERATIONS

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Code: 15858

Main Scientific Area: Business management

Lecturer: Fernando Freitas da Torre

Language of Instruction: Portuguese

Regime: S1

Contact Hours: 60h Total Workload: 108h

ECTS: 6,0

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### Objectives

1. Recognize the importance of processes management activities that are responsible for the production of goods and services
2. Understand the main challenges of Operations and Production Management in the search of solutions for technologic and environmental problems, in response to corporate social responsibility pressure, for the increase of market globalization and knowledge management.
3. Understand the Operations and Production Management scope, especially related to the national corporate context.
4. Develop conceptual and analytic competencies that prepare students to perform an active role in the activities' management connected to goods and services production.

### Learning Outcomes

1. Identify how operations may contribute to business success;
2. Have an overview of the operations function and its interdependencies with other areas;
3. Understand the critical issues and decisions associated with operations management;
4. Use tools and techniques to support the design, planning, management and improvement of operations.

### Course Contents

PART ONE: INTRODUCTION TO OPERATIONS MANAGEMENT

OPERATIONS AND PRODUCTIVITY

What is operations management?

New challenges for operations management

The productivity' challenge

OPERATIONS STRATEGY

Definition of Mission and Strategy

Achieving Competitive Advantage Through Operations

Strategy and operations management decisions

PROJECT MANAGEMENT

Project management techniques: PERT and CPM

Variability in Activity times

Cost-time trade-Offs and project crashing

PARTE TWO: DESIGNING OPERATIONS

PROCESS STRATEGY

Process Strategies

Process Analysis and Design

MANAGING QUALITY

Quality and Strategy

Total Quality Management

Tools of TQM

Statistical Process Control

TQM in Services

CAPACITY AND CONSTRAINT MANAGEMENT

Capacity

Bottleneck Analysis and the Theory of Constraints

PARTE THREE: MANAGING OPERATIONS

INVENTORY MANAGEMENT

Types of Inventory

ABC Analysis

EOQ Model

POQ Model

Quantity discounts Model Safety Stock

### **Recommended Bibliography**

Heizer, J., Render, B. (2017). Operations Management, Global Edition, 12/E, Prentice Hall.

Carvalho, J.C. (2012). Logística e Gestão da Cadeia de Abastecimento, 1ª Edição, Edições Sílabo.

Lopes, J.D., Pimentel, B.M., Pinto, J.G., Soares, J.M., Nunes, S. (2020). Gestão da Produção e Operações - Teoria e casos práticos resolvidos, 1ª Edição, Escolar Editora.

### **Learning and Teaching Methods**

The 1st part of the study programme, specially the connection between Operations and Productivity with Operations strategy allows to reach the first 3 curricular units objectives

The remainder part, essentially practical, will allow students the use of techniques and processes to reach the improvement of operations management, coherently with the 4th objective

### **Assessment Methods**

The evaluation of the curricular unit will be continuous and based on the following elements of assessment:

- 1st Individual test, with a weighting of 35%;
- 2nd Group work, with a weighting of 30%;
- 3rd Individual test, with a ponderation of 35%;

A minimum score of 7.5 points is required at each assessment period.

For students who do not pass (average equal or higher than 9.5) in the continuous evaluation, they will have to take the final exam.

The assessment by final examination will consist of:

- The completion of a written test with a weighting of 70%;
- Classification obtained in group work (2nd moment of continuous evaluation) - 30%.

According to ESG regulations, the student may submit a new work. In that case, it must be an individual assignment.