



UK

SYLLABUS 2026-2027

Operations Management

MODULE SPECIFICATION

Module Code	2627_SCM_1_EN_016
Campus	Oxford
Department(s)	Supply Chain Management and Digital Management
Level / Semester	Undergraduate Year 2 (U2); Equivalent to FHEQ level 5 Semester 04
Language of Instruction	English
Teaching Method	☒ In-person (face-to-face) ☐ Distance learning (live online) ☐ e-Learning (asynchronous) ☐ Hybrid: _____
Pre-requisite(s)?	Knowledge of the basics of management, organisational sciences, marketing and mathematics
ECTS <i>Reminder: 1 ECTS = between 20 and 30hr- student workload</i>	3
Equivalent FHEQ credits	6
Study Hours	75 hours which comprise of 21 directed learning and 54 independent learning/assessment hours

MODULE DESCRIPTION

Module Aims	This module introduces key concepts, principles and practices of operations management, with a focus on manufacturing systems, operational processes and factors affecting their performance and development. Students will develop and apply knowledge of
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	operations management to analyse operational processes and problems within organisational contexts. They will apply appropriate tools and techniques to evaluate operational issues, support decision-making and propose solutions for improving operational performance.
Teaching Arrangement	The module will be delivered through face-to-face teaching, activities in class, group exercises, and illustrative case studies.
Learning Outcomes	By the end of this module, students should be able to: 1. Explain and analyse key concepts, principles and functions of operations management and their application within different organisational contexts 2. Analyse the structure and characteristics of production and operations systems, including the production environment, production processes and factors affecting operational performance 3. Apply appropriate approaches to product planning and development, including consideration of the product life cycle and evaluation of alternative product proposals 4. Apply and evaluate methods for assessing production capacity and identifying factors that influence the effective use of operational resources 5. Apply and evaluate appropriate inventory management techniques, including inventory control, storage systems and economic order quantities, to support operational decision-making
Competency Goals <i>(Knowledge, expertise and interpersonal skills)</i>	PGE_U_CG07 - Students will have a global and sustainable performance mindset
Alignment with Programme Learning Goals	PGE_U_CG07_LO04 - To design value chains by coordinating flows to optimise financial and extra-financial sustainability

SESSION TOPICS / MODULE SCHEDULE

(Please note, a session/sequence may be more than one scheduled class)

<u>Session 1: Module Orientation and Introduction</u> <i>Content:</i> • What is Operations Management (OM)? ○ Basic definitions within OM field ■ Productivity and how OM can improve productivity ○ Basic definitions within OM domain ■ Lead time • Differences between products and services • What is Supply Chain Management (SCM)? • Why OM/SCM is important

Last reviewed: 23/09/2026

- Major decisions operations managers typically make
- Evolution of the OM/SCM field
- Current challenges in OM/SCM

References:

- Krajewski, L. J. and Malhotra, M. K. (2025) *Operations management: Processes and supply chains*. 14th edn. Harlow, United Kingdom: Pearson. (Chapter 1)

Assignments:

- Exercises and cases

Session 2: Operations Management – Process Strategy and Demand Forecasting

Content:

- Organisation mission and strategy
- Levels of corporate strategy
- What is operations strategy?
- How to develop an operations strategy by designing its 3 essential elements
- How to deploy operations strategy by configuring operations decision areas
- Operations strategy development process (Heizer, J., Render, B. and Munson, C. (2024) *Operations management: Sustainability and supply chain management*. 14th edn. Harlow, United Kingdom: Pearson.)
- Demand forecast and its importance
- Three time horizons and which models apply for each
- Main steps to be followed to do a demand forecast
- 2 basic forecasting approaches
- How to use each of the four qualitative models
- Applying regression to causal forecast
- Using time series to forecast
- 3 measures of forecast accuracy
- Using the tracking signal to monitor forecasting
- Basis of demand management
- Applying collaborative techniques to forecast demand

References:

- Krajewski, L. J. and Malhotra, M. K. (2025) *Operations management: Processes and supply chains*. 14th edn. Harlow, United Kingdom: Pearson. (Chapter 2)

Assignments:

- Exercises and cases

Session 3: Operations Management – S&OP and Capacity Planning

Content:

- S&OP:
 - What is “Sales and Operations Planning” (S&OP)?
 - The S&OP monthly process
- Aggregate planning:
 - What is aggregate planning?
 - Costs and constraints involved in aggregate planning
 - 8 main aggregate planning options
 - 3 main aggregate planning strategies
 - How to conduct an aggregate planning

- Capacity:
 - What is capacity?
 - Different levels of capacity planning
 - How to conduct a capacity analysis at the S&OP level

References:

- Krajewski, L. J. and Malhotra, M. K. (2025) *Operations management: Processes and supply chains*. 14th edn. Harlow, United Kingdom: Pearson. (Chapter 5)

Assignments:

- Exercises and cases

Session 4: Operations Management – Inventory Management

Content:

- Different types and roles of inventory in the supply chain
- How inventory can be classified (ABC analysis)
- How accurate inventory records can be maintained
- Calculating how much to order and when to order for independent demand items
- Using safety stock
- Advantages and disadvantages of different inventory location strategies
- Computing asset productivity inventory performance

References:

- Krajewski, L. J. and Malhotra, M. K. (2025) *Operations management: Processes and supply chains*. 14th edn. Harlow, United Kingdom: Pearson. (Chapter 9)

Assignments:

- Exercises and cases

Session 5: Total Quality Management

Content:

- Maintenance and reliability:
 - Defining maintenance, reliability, and their performance
 - How to calculate and improve system reliability
 - Distinguish between preventative and breakdown maintenance
 - Compare preventative and breakdown maintenance costs
 - Defining autonomous maintenance and Total Productive Maintenance (TPM)
- Lean operations:
 - Defining lean operations/lean systems
 - Defining the seven wastes
 - Goals and building blocks of the lean production system
 - Basic tool for lean: value stream mapping
 - How lean applies to services

References:

- Heizer, J., Render, B. and Munson, C. (2024) *Operations management: Sustainability and supply chain management*. 14th edn. Harlow, United Kingdom: Pearson. (Chapters 13 & 16)

Assignments:

- Exercises and cases

KEY TEXTS

1. Slack, N., Brandon-Jones, A. and Burgess, N. (2023) *Essentials of operations management*. 3rd edn. Pearson.
2. Krajewski, L. J. and Malhotra, M. K. (2025) *Operations management: Processes and supply chains*. 14th edn. Harlow, United Kingdom: Pearson.
3. Heizer, J., Render, B. and Munson, C. (2024) *Operations management: Sustainability and supply chain management*. 14th edn. Harlow, United Kingdom: Pearson.

SUPPLEMENTARY TEXTS

1. Besbes, O., Castro, F., and Lobel, I. 'Spacial capacity planning', *SSRN Electronic Journal*. doi:10.2139/ssrn.3292651.

MODES OF ASSESSMENT

Continuous Assessment (40%)	Simulation	20%
	Written test	20%
Final Exam (60%)	Closed-book written exam	

MODULE DESIGN TEAM

- Author: *Moacir Godinho Filho*
- Reviewer: *Constant Iannicci*
- External Reviewer: *André Blackman*