

WM9I2-15 Sustainable Supply Chains and Operations Management

27/28

Department

WMG

Level

Taught Postgraduate Level

Module leader

Mujthaba Ahtamad

Credit value

15

Module duration

4 weeks

Assessment

100% coursework

Study location

University of Warwick main campus, Coventry

Description

Introductory description

Sustainable Supply Chain and Operations Management focuses on how organisations design, coordinate, and manage interconnected processes across international networks to transform resources such as capital, machinery, labour, and materials into products and services valued by customers. It examines how operations are integrated across global supply chains, including manufacturing systems and the use of advanced technologies in production and logistics. Where this module is delivered at an overseas centre the module will be delivered over 1 or 2 weeks.

Module aims

This module provides students with a comprehensive understanding of the wide-ranging tools, techniques, and technologies (e.g., artificial intelligence and control systems) used in sustainable supply chain and operations management. It encourages students to critically evaluate the suitability of these approaches and determine which are most effective when applied across different industrial contexts.

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

This module introduces key concepts in sustainable supply chain and operations management. We will look at examination, the design, coordination, and integration of operations management.

This module focuses on: Asset/Capacity management

Inventory management

Delivery/scheduling.

Demand forecasting

Planning and an introduction to Control System

Technology such as Automation/AI

The above will help students to underpin concepts such as competitiveness, effectiveness, sustainability, and resilience. The module also explores methods for process improvement and operational optimisation through methods such as:

Lean

5S

Six Sigma

We will look at using the following methods in our teaching:

Exercises

Simulations

Case-studies.

Learning outcomes

By the end of the module, students should be able to:

- Compare and contrast different principles/tools/techniques used in planning and operations management and justify their application in a range of industrial sectors (AHEP M2, M3)
- Evaluate how appropriate technologies can be used to enhance operations management within sustainable supply chains and evaluate their impact (AHEP M7)
- Analyse the dependencies/links between capacity, inventory, and delivery performance (AHEP M1)
- Evaluate how Capacity/Inventory/Delivery can be managed to achieve effective, efficient and sustainable operational performance in supply chains (AHEP M5)

Indicative reading list

[Reading lists can be found in Talis](#)

Interdisciplinary

Covers a range of interdisciplinary topics, from Engineering Management, Decision-Making in Business as well as Supply Chain Management.

International

The content will explore sustainability in a variety of supply chains, including international/global contexts.

Subject specific skills

Critical thinking, Data Analysis and Optimisation, Forecasting/Demand Management & Planning.

Transferable skills

Problem solving, Communication, Professionalism, Collaborative/Team working.

Study

Study time

Type	Required
Lectures	15 sessions of 1 hour (10%)
Seminars	13 sessions of 1 hour (9%)
Online learning (scheduled sessions)	2 sessions of 1 hour (1%)
Online learning (independent)	15 sessions of 1 hour (10%)
Other activity	15 hours (10%)
Private study	30 hours (20%)
Assessment	60 hours (40%)
Total	150 hours

Private study description

Students encouraged to read materials available on moodle and reading list.

Other activity description

Unsupervised case-study work

Costs

No further costs have been identified for this module.

Assessment

You must pass all assessment components to pass the module.

Assessment group A

	Weighting	Study time	Eligible for self-certification
Assessment component			
Reading and Engagement Test	30%	12 hours	No
An open-book test to determine engagement with reading and lecture content provided. The test will be provided via an online platform such as Moodle.			

Reassessment component is the same

Assessment component			
Written Assignment	70%	48 hours	Yes (extension)
A comprehensive assignment which will ask students to critically analyse and evaluate a series of topics on Sustainable Supply Chain and Operations Management.			

Reassessment component

Written Assignment - Resubmission			No
Resubmission for a comprehensive assignment which will ask students to critically analyse and evaluate a series of topics on Sustainable Supply Chain and Operations Management.			

Feedback on assessment

Reading & Lecture Engagement Test results will be provided via tabula as per dept. guidelines with the Written Assignment marks. Written feedback for the Written Assessment, will be provided using the University feedback template. This feedback will identify the marking criteria against each Learning Outcome, and where necessary a brief paragraph/statement will be provided commenting on the overall strengths and weaknesses of the work and where applicable, any improvements/remedial work needed in the resubmission.

Availability

There is currently no information about the courses for which this module is core or optional.