

ENGI08037 Operations and Supply Chain Engineering (Part-time)

Full Title	Operations and Supply Chain Engineering (Part-time)		
Status	Uploaded to Banner	Start Term	2020
NFQ Level	08	ECTS Credits	05
Module Code	ENGI08037	Duration	18 weeks - (18 Weeks)
Grading Mode	Numeric	Department	Mechanical & Industrial Eng
Module Author	Padraig Audley		
Co Authors	Paul ODowd		

Module Description

The principles of Operations Management and Supply Chain Engineering. It will cover the design, management and control of the sustainable supply chain, from the market, sales and distribution, to manufacturing and procurement.

Learning Outcomes

On completion of this module the learner will/should be able to:

1. Examine the role, tools and impact of Operations Management in the organisation and logistics system.
2. Compare and contrast appropriate strategies and competitive behaviour for organisations including consideration of sustainability issue
3. Appraise appropriate Operations Management improvement tools and techniques to optimise the logistics system.
4. Select the appropriate location for a warehouse or manufacturing facility and develop an inventory management plan for a business.
5. Design and discuss how supply chain management supports the development and execution of a winning competitive strategy
6. Map a supply chain and describe mapping's role in supply chain design.

Indicative Syllabus

1. Operations and Strategy, Product, Service, Process and Plant Design
2. Production Scheduling, Planning, control and Capacity management
3. Inventory models and management
4. Facilities location
5. Operations mapping and Improvement
6. Supply Chain Management models, methods and strategies
7. Material, Financial and Information flows within the chain
8. Supply chain mapping
9. Core Competencies and Outsourcing
10. Global Supply Chain Management
11. Use of simulation to optimise supply chains
12. Lean Supply Chains.
13. Sustainable Supply Chains
14. Risk and ethical supply chain considerations

Teaching and Learning Strategy

Type 2 combines 1hr face-to-face and 2hr of online delivery either synchronous or asynchronous, and a high level of self-learning.

The teaching and learning strategy used include :

- A direct instruction strategy (including lecture, repeating an activity, review and feedback)
- An activity based strategy (including practice)
- A cooperate teamwork strategy
- An ICT based strategy (including the use of a virtual learning environment: Moodle and specific software)
- An independent learning strategy (including homework and independent study)
- Thinking skills strategy (including problem solving, graphing)
- On-line Videos

This Modules combines face-to-face, online delivery either synchronous or asynchronous, and a high level of self-learning. Time allocation is given for the online delivery as well as support and monitoring of the learning.

Assessment Strategy

The module is assessed as follows;

50% of the overall mark is assigned to continuous assessment of theory.

A number of different assessment strategies will be used including: written assessments; assignments; group work; problem and scenario based exercises; multiple choice assessments; specific software.

50% of the overall mark is assigned practical work.

A number of different assessment strategies will be used including: mapping; mini projects; practical lab work; group exercises; problem and scenario based exercises; specific software; written assessments; assignments.

Repeat Assessment Strategies

Repeat assessment will be offered

Indicative Coursework and Continuous Assessment:		100 %		
Form	Title	Percent	Week (Indicative)	Learning Outcomes
Assessment	CA	50 %	OnGoing	1,2,3,4,5,6
Practical Evaluation	Practical	50 %	OnGoing	1,2,3,4,5,6

Blended Delivery Mode Average Weekly Workload:			3.00 Hours		
Type	Description	Location	Hours	Frequency	Weekly Avg
Online Learning	Online Delivery	Not Specified	2	Weekly	2.00
Practical	Laboratory	Computer Laboratory	1	Weekly	1.00

Required Reading Book List

Jay, B., (2011). *Operations Management*. ISBN 0135111439 ISBN-13 9780135111437

Taha, A., (2016). *Operations Research*. Pearson. ISBN 0134444019 ISBN-13 9780134444017

And, B., *Principles of operations management : sustainability and supply chain management / Jay Heizer, Barry Render and Chuck Munson* Tenth edition. Pearson.

Literary Resources

Supply Chain Management: From Vision to Implementation 1/e. Fawcett, Ellram and Ogden, Pearson, 2010.

Operations management, 10th Global Edition, Heizer and Render, Pearson, 2011.

A Practical Guide to Transportation and Logistics, Michael B. Stroh. Logistics Network, 2001

World-class Warehousing and Material Handling (Logistics Management Library, Edward Frazelle. McGraw-Hill Education, 2001.

Logistics and Supply Chain Management: Strategies for Reducing Cost and Improving Service, Martin Christopher, Financial Times Prentice Hall, 2004.

Other Resources

Simulation Software Such as SIMIO

Programme Membership

GA_EINDG_H08 202000 Bachelor of Engineering (Honours) in Industrial Engineering
