

# ES4C9-15 Supply Chain Management

**21/22**

**Department**

School of Engineering

**Level**

Undergraduate Level 4

**Module leader**

Alexa Kirkaldy

**Credit value**

15

**Module duration**

10 weeks

**Assessment**

100% coursework

**Study location**

University of Warwick main campus, Coventry

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## Description

### Introductory description

ES4C9-15 Supply Chain Management

[Module web page](#)

### Module aims

Engineering organisations operate within part of a larger supply chain or network, whose combined processes deliver a product or service to the end customer. To increase competitive advantage businesses must not only seek to design and operate processes that add maximum value within their own entity but also strive to optimise these processes within the larger supply chain or network.

The module aims to give participants an understanding of the operation of the supply chain and the opportunities that tools such as e-commerce bring for the more effective integrated operation of the supply of both products and services.

### 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.

- 1 SCM concepts
- 2 Business strategy and SCM
- 3 SCM and Procurement strategies
- 4 Value and logistics costs
- 5 Globalisation
- 6 Outsourcing
- 7 Supplier selection
- 8 Lead time reduction
- 9 JIT, lean and agile
- 10 Integration
- 11 Relationships
- 12 Negotiation
- 13 Measurement & metrics
- 14 Application of technology in the supply chain
- 15 Physical Logistics
- 16 Improving & developing

## **Learning outcomes**

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

- Evaluate and apply end-to-end supply chain strategies and principles to ensure alignment of supply chain activities with end customer requirements.
- Select and evaluate supply chain techniques for entities within the global and domestic supply chain to select and maintain effective partnerships and supply chain relationships between tiers within the supply chain.
- Utilise a selection of suitable supply chain and operations management tools and techniques to manage and improve the performance of the supply chain.
- Appraise, select and recommend suitable technical enablers and associated physical logistics techniques to ensure that end customer requirements are met from a cost, quality and delivery perspective.
- Apply the principles of sustainability and the factors contributing to an ethically and environmentally sustainable supply chain with an awareness of regulatory considerations.
- Analyse and present knowledge and application of the above in appropriate verbal and written formats.

## **Indicative reading list**

- Purchasing and Supply Chain Management, Lysons, K., Pearson Prentice Hall, 2016
- Operations Management, Slack, N., Financial Times Prentice Hall, 2016
- Supply chain management : strategy, planning, and operation, Chopra, S., Pearson Prentice-Hall, 2015
- Logistics Management and Strategy, Harrison, A. Prentice Hall 2014
- Leading Procurement Strategy, Mena, C Kogan Page 2014
- Supplier Relationship Management, O'Brien, J Kogan Page 2014
- Sustainable Logistics and Supply Chain Management, Grant D., Kogan Page 2013
- Supply Chain Strategies, Hines, T., Elsevier Butterworth Heinemann 2013

- Supply chain management : from vision to implementation, Fawcett, S.E., Pearson Prentice Hall, 2013
- Supply chain logistics management, Bowersox, D. McGraw Hill 2012
- Logistics and Supply Chain Management, --- Creating value adding networks, Christopher, M., Prentice Hall, 2011
- Vested Outsourcing, Vitasek, K ,Palgrave Macmillan,2011
- Global Logistics and Supply Chain Management ,Butcher , T.,Wiley,2011

[View reading list on Talis Aspire](#)

## **Subject specific skills**

1. Students should be able to demonstrate their ability to visualise, conceptualise and understand typical supply chain systems.
2. Student should be able to recognise and develop economically viable and ethically sound sustainable supply chain solutions
3. Students should be pragmatic, taking a logical and practical supply chain wide approach to understand the practical steps necessary for, often complex, supply chain concepts to become reality.
4. Students should demonstrate the ability to seek to achieve sustainable solutions to problems and have strategies for being creative and innovative
5. Students should have the ability to be risk, cost and value-conscious, and aware of their ethical, social, cultural, environmental, health and safety, and wider professional engineering responsibilities

## **Transferable skills**

1. Apply problem solving skills, information retrieval, and the effective use of general IT facilities within the context of supply chain management.
2. Communicate (written and oral; to technical and non-technical audiences) and work with others within a supply chain context.
3. Plan self-learning and improve performance, as the foundation for lifelong learning/CPD
4. Exercise initiative and personal responsibility, including time management, which may be as a team member or leader
5. Demonstrate a growing awareness of the nature of supply chains, business and enterprise in the creation of economic and social value
6. Overcome difficulties by employing skills, knowledge and understanding in a flexible manner
7. Students should have the ability to understand, formulate and operate within appropriate codes of conduct, when faced with an ethical issue
- 8) Students should demonstrate and appreciation of the global dimensions of supply chain management, engineering, commerce and communication
8. Students should be professional in their outlook, be capable of team working, be effective communicators, and be able to exercise responsibility and sound management approaches.

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## **Study**

## Study time

Type	Required
Lectures	30 sessions of 1 hour (20%)
Supervised practical classes	1 session of 3 hours (2%)
Private study	117 hours (78%)
Total	150 hours

## Private study description

Guided independent learning 117 hours

## Costs

No further costs have been identified for this module.

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## Assessment

You must pass all assessment components to pass the module.

Students can register for this module without taking any assessment.

## Assessment group A

	Weighting	Study time
Critical Review and Analysis of an end to end supply chain of the students choice	100%	120 hours
Analysis of a current supply chain within an engineering / technology sector considering academic and industry best practice		

## Feedback on assessment

Standardised feedback provided for coursework element using an agreed template focussing on various elements (structured abstract, overview of SCM in company, research, presentation).

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## Availability

## Courses

This module is Core for:

- Year 4 of UESA-H311 MEng Mechanical Engineering

This module is Option list A for:

- Year 4 of UESA-H163 MEng Biomedical Systems Engineering
- Year 5 of UESA-H636 MEng Electronic Engineering with Intercalated Year
- Year 4 of UESA-H114 MEng Engineering
- Year 4 of UESA-HH76 MEng Manufacturing and Mechanical Engineering
- Year 5 of UESA-HH38 MEng Manufacturing and Mechanical Engineering with Intercalated Year
- Year 5 of UESA-HH77 MEng Manufacturing and Mechanical Engineering with Intercalated Year
- Year 4 of UESA-H311 MEng Mechanical Engineering

This module is Option list B for:

- Year 4 of UESA-H336 MEng Automotive Engineering
- Year 4 of UESA-H217 MEng Civil Engineering
- Year 5 of UESA-H218 MEng Civil Engineering with Intercalated Year
- Year 5 of UESA-H636 MEng Electronic Engineering with Intercalated Year
- Year 4 of UESA-HH31 MEng Systems Engineering

This module is Option list C for:

- UESA-H311 MEng Mechanical Engineering
  - Year 4 of H311 Mechanical Engineering
  - Year 4 of H30J Mechanical Engineering with Appropriate Technology
  - Year 4 of H30L Mechanical Engineering with Automotive Engineering
  - Year 4 of H30P Mechanical Engineering with Fluid Dynamics
  - Year 4 of H30M Mechanical Engineering with Robotics
  - Year 4 of H30H Mechanical Engineering with Sustainability
  - Year 4 of H30N Mechanical Engineering with Systems Engineering
- Year 4 of UESA-H316 MEng Mechanical Engineering
- Year 4 of UESA-H318 MEng Mechanical Engineering with Exchange Year
- Year 5 of UESA-H317 MEng Mechanical Engineering with Intercalated Year