

ES4C9-15 Supply Chain Management

26/27

Department

School of Engineering

Level

Undergraduate Level 4

Module leader

Maria Triantafyllou

Credit value

15

Module duration

10 weeks

Assessment

100% coursework

Study location

University of Warwick main campus, Coventry

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. (M14, M15)
- 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. (M9, M13)
- Utilise a selection of suitable supply chain and operations management tools and techniques to manage and improve the performance of the supply chain.. (M13)
- 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.(M5, M14)
- Apply the principles of sustainability and the factors contributing to an ethically and environmentally sustainable supply chain with an awareness of regulatory considerations. (M7(D), M8)
- Analyse and present knowledge and application of the above in appropriate verbal and written formats. (M17)

Indicative reading list

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

[Specific reading list for the module](#)

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.
9. Apply analytical and critical thinking skills to evaluate business scenarios, justify recommendations, and support decision-making in professional supply chain contexts.

Study

Study time

Type	Required
Lectures	15 sessions of 1 hour (10%)
Seminars	15 sessions of 1 hour (10%)
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.

Assessment

You must pass all assessment components to pass the module.

Students can register for this module without taking any assessment.

Assessment group A4

	Weighting	Study time	Eligible for self-certification
Assessment component			
Individual Engineering Supply Chain Case Study Presentation (in-class)	40%		No
Analysis of a current supply chain within an engineering / technology sector considering academic and industry best practice (individual)			
Reassessment component is the same			
Assessment component			
Supply Chain Assessment Simulation for Engineering Graduates	60%		No
A closed-book, computer-based examination designed to simulate the tests and exercises commonly used in graduate supply chain assessment centres in engineering companies. Students will complete a series of individual tasks involving data interpretation, problem-solving and decision-making for a set of realistic engineering business scenarios under time constraints.			

Weighting

Study time

Eligible for self-certification

Reassessment component is the same

Feedback on assessment

1. Individual Engineering Supply Chain Case Study Presentation (in-class): Immediate verbal feedback will be provided after each presentation. Summative comments will be documented within a standardised marking rubric and uploaded on Tabula.
 2. Supply Chain Assessment Simulation for Engineering Graduates: Feedback provided via Tabula, including pre-prepared explanations for closed-ended questions and standardised rubric-based feedback with individualised comments for open-ended responses.
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Availability

Courses

This module is Core for:

- Year 4 of UESA-H311 MEng Mechanical Engineering

This module is Optional for:

- Year 4 of UESA-H116 MEng Engineering with Exchange Year
- Year 5 of UESA-H115 MEng Engineering with Intercalated Year

This module is Option list A for:

- Year 4 of UESA-H336 MEng Automotive Engineering
- Year 5 of UESA-H337 MEng Automotive Engineering with Intercalated Year
- Year 4 of UESA-H163 MEng Biomedical Systems Engineering
- Year 5 of UESA-H164 MEng Biomedical Systems Engineering with Intercalated Year
- 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 5 of UESA-H337 MEng Automotive Engineering with Intercalated Year
- Year 4 of UESA-H217 MEng Civil Engineering
- Year 4 of UESA-H219 MEng Civil Engineering with Exchange Year
- 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
- Year 4 of UESA-HH33 MEng Systems Engineering with Exchange Year
- Year 5 of UESA-HH32 MEng Systems Engineering with Intercalated Year

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