

Module Code	ME5MM3
Module Name	Supply Chain Management
ECTS Weighting¹	5 ECTS
Semester taught	Semester 1
Module Coordinator/s	Associate Professor Garret O'Donnell (Garret.ODonnell@tcd.ie)
<u>Module Learning Outcomes</u> with reference to the <u>Graduate Attributes</u> and how they are developed in discipline	<p>On successful completion of this module, students should be able to:</p> <ol style="list-style-type: none"> 1. Understand the various components to the supply chain and the value chain as proposed by Porter, and relate this to engineering related industry sectors. 2. Explain the technical and functional aspects of information flow in the supply chain including product tracking. 3. Consider issues that may impact the supply chain pertaining to the market environment 4. Develop tools (decision support using excel with VBA or equivalent) that allow for the quantification of supply chain, for example, the supply chain of a partner company, analyse the performance, consolidate the company supply chain information and be able to make recommendations toward best practice and beyond. 5. Consider aspects of the international supply chain, issues related to FDI in Ireland, ethical aspects of sourcing and purchasing. <p>Module Description</p> <p>This module is designed to provide an overview of supply chain management for engineers, in particular from a business and managerial perspective. This will enable the student to understand what a supply chain is, why it is important and the challenges in managing the supply chain. In keeping with the philosophy of the Engineering and Management program, there will be an emphasis on both written, oral communication and presentation skills that will contribute to the students' ability to communicate effectively in cross-functional settings. Because supply chain management runs through the entire organization, the module will also contribute to the integration of other module work in the program ranging from ST modules on management science, and software applications, to advanced manufacturing modules where technical specifications are set, to design modules where component lead times</p>

¹ [TEP Glossary](#)

and sourcing is important. The specific aims of the module are:

- to consider an aspect of Supply Chain Management at a deeper level.
- to synthesize learning from other aspects of the Engineering with Management program and Mechanical Engineering, Manufacturing and Bioengineering.
- to sharpen analytical and critical thinking skills in cross discipline areas.

Graduate Attributes: levels of attainment

To act responsibly - Attained

To think independently - Attained

To develop continuously - Attained

To communicate effectively - Enhanced

Module Content

- Introduction to Supply Chain Management
- Porters Value Chain
- Sourcing and Purchasing
- Digitisation/Industry 4.0 and product tracking
- Inventory Management/reverse supply chain
- The Value of Information
- Ethical considerations in supply chain

Teaching and Learning Methods

This module is typically a highly interactive, with modest group sizes and often with international student participation that enriches the discussions. Hence the class forms the basis for good discussion on topics, as well as more formal podium style lectures. Examples related in the class are often based on topical issues and current affairs in business that will impact supply chain, e.g. Brexit, COVID etc or equivalent topical issues. Visiting lectures range from industry (Biomedical, SME's, Energy, Consumer goods, Management Consultants, Retail) to visiting researchers on specialist topics (RFID, IoT). Group presentations on topics related to the industry project for shared learning. The assignment is a significant task on topics ranging from design of decision support tools, to benchmarking of supply chains in various industry sectors, contextualised with industry. The module is designed for face to face teaching and will be adapted as the need arises if Covid restrictions need to be considered.

Assessment Details² Please include the following: <ul style="list-style-type: none"> • Assessment Component • Assessment description • Learning Outcome(s) addressed • % of total • Assessment due date 	Assessment Component	Assessment Description	LO Addressed	% of total	Week due			
	Assignments	Online and review papers	all	60%	Wk12			
	Assignments	Continuous Assessment/project	LO 4	40%	Wk12			
Reassessment Requirements	See lecturer							
Contact Hours and Indicative Student Workload²	<table border="1"> <tr> <td>Contact hours: 33 Hours</td> </tr> <tr> <td>Independent Study (preparation for course and review of materials): 33</td> </tr> <tr> <td>Independent Study (preparation for assessment, incl. completion of assessment): 33</td> </tr> </table>					Contact hours: 33 Hours	Independent Study (preparation for course and review of materials): 33	Independent Study (preparation for assessment, incl. completion of assessment): 33
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Recommended Reading List	<ul style="list-style-type: none"> • Designing and managing the supply chain, by Simchi-Levi, Kaminsky, Simchi-Levi <p>Additional reading</p> <ul style="list-style-type: none"> • Purchasing and Supply Chain Management, by Arjan van Weele. 							
Module Pre-requisite	EM year 3,4; or visiting student equivalents							
Module Co-requisite	Na							
Module Website	Blackboard TCD							
Are other Schools/Departments involved in the delivery of this module? If yes, please provide details.	No							
Module Approval Date	28/08/2023							
Approved by	Nicole Byrne							
Academic Start Year	2023							

² [TEP Guidelines on Workload and Assessment](#)

Academic Year of Date

2023– 2024