

Module Code	ME4MM3
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)

Module Learning Outcomes with reference to the Graduate Attributes and how they are developed in discipline

On successful completion of this module, students should be able to:

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 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.

Module Description

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

¹ [TEP Glossary](#)

- 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.
- 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 same learning approach will be used except all of the content will be delivered online in semester 1 2020.