

## Master Course Syllabus

**Department:** Engineering Technology **Course Prefix/Number:** MQL 562

**Official Course Title:** Supply Chain Management

Master Syllabus Approved by Department on: 10/27/2005

**I. Catalog Description:** Exploration of the key issues associated with the design and management of industrial supply chains. Supply Chains are concerned with the efficient integration of suppliers, factories, warehouses and stores so that products are distributed to customers in the right quantity and at the right time. The course will focus on minimizing the total supply chain cost subject to various service requirements.

**II. Prerequisites:** MET 524.or concurrent enrolment

**III. Expanded Course Description:** Supply Chain Management focuses on managing material and information outside of the factory walls including aspects of product design collaboration, demand planning and forecasting, inventory deployment, distribution system design, channel management, procurement, and logistics. Additionally the students will explore order fulfillment strategies and the impact of the Internet on distribution and back-end supply chain processes. The course will examine strategies for enterprise and enterprise integration. Stumbling blocks for supply chain integration such as high transaction costs between partners, poor information availability, and the challenges of managing complex interfaces between functional organizations have been rapidly dissolving on the web. Finally, the student will study the impact of these changes on traditional supply chains and on the creation of virtual chains.

### **IV. Knowledge Outcomes:**

1. Conceptualize supply chain designs, which are aligned with business models for manufacturing companies
2. Manage inventory efficiently and pool inventory risks across time, products, channels, and geography.
3. Design supply chain contracts for effective governance of supply chain relationships.
4. Diagnose information integration problems across the supply chain and their consequent impacts in deploying physical and financial resources
5. Align supply chain integration strategy with the uncertainty conditions of supply and demand.
6. Optimally position the push-pull boundary to leverage economies of scale and economies of scope.
7. Design implementation processes for partnerships, such as vendor managed inventory, that involve information sharing and shared governance of processes and infrastructure.
8. Evaluate outsourcing decisions by applying the buy-make framework.
9. Manage the benefits and risks of outsourcing.
10. Determine when and how a supplier should be integrated into the new product development process.
11. Evaluate the risks and advantages of international supply chains.

**V.** Unless otherwise stipulated in this master syllabus by the department, the following items are subject to faculty discretion as described in each faculty member's

individual course outline/syllabus:

- a) Course Requirements? (grading/evaluation procedures; class attendance policy; term papers, projects, field assignments; examinations; class participation, etc.)
- b) Required Text(s)?
- b) Bibliography?

Department Head Signature/Date:

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Signature

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Date