

**Columbia University  
Graduate School of Business**

**B8108 Supply Chain Management**

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**Course Description:**

Supply chains have been around for as long as the business of production itself. What is new is their management. Activities such as purchasing, warehousing, inventory control and transport were once considered part of the cost of running a business. Now these activities come together as “supply-chain management”—a strategic function that has taken center-stage on CEO’s agenda. What explains the success of Wal-Mart in retailing, Dell in the personal-computer business, Zara in fashion, Toyota in automobile production and Li & Fung in the trading business? Efficient and responsive supply-chain management.

There are several reasons for supply chain function’s growing influence on the bottom line. First, businesses are doing less and less within their own organization and relying more and more on their supply chain partners. This may be due to increased complexity, scale economy or to focus on core competencies. Whatever the reason, the success of a firm is increasingly dependent on what happens outside its organizational boundaries. Second, supply chains are becoming longer and more complex. Stretched across several continents, spanned by road, rail, sea, air and now, by internet—the task of ensuring that all these things work together seamlessly is frustratingly difficult and requires constant attention. Third, supply chain is becoming more enveloping—it includes everything from buying raw materials to managing suppliers, warehousing, operating transport fleets, taking orders, collecting payments, repairing products and even reverse logistics—the task of recycling unused and end-of-product-life-cycle items. Finally, supply disruption represents a significant danger for many firms and managing this risk is becoming a

pressing issue. Ironically, as supply chains have become leaner this risk has only increased. The new JIT converts are celebrating their lean international supply chains, unaware that a dock strike in California or an earthquake in Turkey can have a calamitous effect on their business.

The Supply Chain Management course will focus on how to coordinate and integrate various activities into a seamless process. The emphasis will be on managing material and information flow across different partners in the chain. The alignment of incentives, design and evaluation of contracts and strategies to reduce and hedge uncertainties will receive significant attention.

This course will explore:

- Key variables, control levers, and critical tradeoffs in supply chains
- The enabling role of the Internet
- Matching supply chain strategies to market needs
- How to cope with uncertainties in supply chains
- Managing information flows for supply chains
- Diagnostics for supply chain performance
- Inventory/service tradeoffs
- Distribution strategies
- Sourcing and supplier management
- Role of intermediaries
- Supply flexibility
- Risks in supply chain

The course will include both individual and group work. Assignments will indicate if the work should be submitted as a group or individually. Case groups may have four or five members while individual assignments should be addressed individually. Grading will be based on case analyses, two exams and assignments as discussed below.

**Grading:**

Your grade in the course will be based on your individual, as well as group efforts and performance. We will use the following weighting scheme:

Class Participation	20%
Homework and Case Assignments	30%
Midterm	15%
Final Examination	35%

Class discussion is an important part of the design of the course. Therefore your participation will be graded, and when necessary, people will be called on to add to the discussion. The quality of your participation in discussions will be judged based primarily on your ability to move the class discussion forward. The content, depth and relevance of comments to the discussion are important as well. So that we can accurately assess your participation, you should bring your tent (name) card to class throughout the term.

Each week there will be an assignment related to the case and/or the subject. Guidelines for preparing for the cases as well as assignments will be distributed a week in advance. Sometimes these assignments will be group efforts while others must be prepared individually (the nature of the assignment will be specified). Assignments are due at the beginning of class.

You may discuss the cases and assignments with colleagues in your class. However, the work submitted for grading must reflect your own thinking and contribution. I will assume that each member of the team has contributed equally to a group assignment, unless noted otherwise.

Mid-term and final exams will be open-book with access to class notes.

### **Required Readings:**

Readings are available in the course pack.

### **Optional Technical Reference:**

1. *Inventory Management and Production Planning and Scheduling* by Edward A. Silver, David F. Pyke, and Rein Peterson, 1998, 0-471-11947-4
2. *Matching Supply with Demand: An Introduction to Operations Management* by Gerard Cachon, 2006, McGraw-Hill Irwin
3. *The Resilient Enterprise* by Yossi Sheffi, 2005, MIT Press