



## Syllabus

### MIS 690

## Supply Chain Management and Strategy

### **Introduction to Course**

The course will explore the major elements of the supply chain. The student will be exposed to leading edge thinking on supply chain strategy as well as practical tools and methods for its implementation.

Topics covered include:

- Supply Chain Management Principles and the Customer
- Supply Chain Networks and Organizations
- Product Lifecycle Implications to Supply Chains
- Forecasting and Inventory Management
- Supply Chain Processes
- Supply Chain Information Systems
- Supply Chain Performance and Metrics
- Lean Supply Chains
- Risk Management
- Legal and Ethical Issues

### **Learning Goals**

Students will develop an understanding of how to manage the interaction of business functions across companies in the supply chain, as well as the impact of demand on the supply chain and the considerable competitive advantages that can result from managing demand across companies. Student will learn how to manage the operations and logistics functions as they impact numerous supplier and customer companies, as well as, to use lean enterprise system knowledge to more efficiently utilize the resources available to the supply chain. Students will learn about the importance of supply chain performance

measurement and management, and how to use contemporary information tools to support decision making in an integrated supply chain environment.

These objectives are carried out at a course level by a solid review of the theory base associated with supply chain management, along with a discussion of advanced topics, trends and directions. At a class level course topics are reviewed through a combination of lecture, discussion, and student project work. Finally, each topic in the course is addressed through a combination of assignments, case studies, exercises, and readings.

After taking the Supply Chain Management and Strategy course, the student will be able to :

- Understand how supply chain strategy can provide a competitive advantage for organizations
- Recognize supply chain approaches to support products in different phases of their lifecycle
- Analyze the balance between customer satisfaction level and inventory management policies
- Integrate the role of manufacturing capabilities in pursuit of supply chain objectives
- Leverage supplier and distributor capabilities within value generating business processes
- Design lean supply chains with the appropriate levels of risk
- Apply information systems to support collaboration and visibility of supply chains

### **Pedagogy**

This course combines lecture, in class exercises and case studies. There will also be individual written assignments, team assignments and formal presentations by the students. Students are expected to use business terminology to credibly present their work to a knowledgeable business audience. Students are encouraged to understand both business and technology issues from the perspective of senior business/technology managers.

### **Required Readings: Text**

Chopra, Sunil, P. Meindl, Supply Chain Management, Fourth Edition, Pearson Prentice Hall, Upper Saddle River, NJ, 2010, ISBN: 978-0-13-608040-4.

### **Required Readings: Case Study Studies**

CASE No.	TOPICS	READINGS
1	Customer Perspectives	Slone, Reuben, <u>Leading a Supply Chain Turnaround</u> , Harvard Business Review, October, 2004
2	Product Lifecycle	Fisher, Marshall, <u>What is the Right Supply Chain for Your Product</u> , Harvard Business School, March-April

		1997,
3	Supply Chain Strategy	Lee, Hau L., <u>The Triple-A Supply Chain</u> , Harvard Business Review, October 2004,
4	Supply Chain Strategy	Narayanan, V.G., A. Raman, <u>Aligning Incentives in Supply Chains</u> , Harvard Business Review, November 2004,
5	Supply Chain Information Systems	Humphreys, P.K., M.K. Lai, D. Sculli, <u>An inter-organizational information system for supply chain management</u> , Int. J. Production Economics, 70, 2001, pp. 245-255.
6	Risk Management	Sheffi, Yossi, J. B. Rice, Jr., <u>A Supply Chain View of the Resilient Enterprise</u> , Sloan Management Review Fall 2005, pp. 41-48

## Exercises and Simulations

Class Team Exercise: Beer Game

Description: The beer game is an exercise to allow students to experience how supply chains react to information and decision making. The game will be executed using a web-based application. Students will participate in different roles of the team and work towards maintaining their supply of "beer" to the customer. The professor will provide details on the game later in the semester.

## Assignments

All assignments are due as noted. If the student cannot attend the class for business or personal reasons, they are still responsible for handing in their assignment via email or other agreed upon means with the professor. In fairness to others, grades for late work will be penalized 10%.

## Case Study Critiques

The course will use six case studies to help students gain a more in-depth appreciation for relevant topics, and students are expected to read and provide a one page written critique of each case study including the following:

- Critique the Author(s) Conclusions or Propositions (Agree or Disagree)
- Highlight the Key Lessons Learned
- Suggestions on How to Improve the Author(s) Point
- If possible, suggest alternative rationale in the case study
- If possible, broaden or expand their key points with other examples, personal or work related.

Students are also expected to discuss the case study in class regarding their insights gained from the case study. The critiques will be due as per the class schedule.

## Class Exercise

The course will also use a class exercise to demonstrate first hand the issues of supply chain. The students will be grouped into teams to execute the exercise and will be expected to present findings to the class.

### Final Presentation and Paper

Each student is expected to do a report consisting of a written paper (15-20 pages) and an oral presentation (10-15 minutes). The research paper should be typed in a 12 point font, one inch margins, and a minimum of 1½ line spacing. The structure of the paper should include the following:

- Abstract
- Table of Contents
- Introduction
- Analysis and Critique
- Summary
- Bibliography

The context of the report should be a topic specific to the area of Supply Chain Management. Topics can include but are not limited to technical trends in supply chain information systems, current issues in supply chain management such as global outsourcing or specific company projects involving supply chain management. It is encouraged that student's use a particular topic relevant to their work, if possible, to utilize the course concepts in a more meaningful way. Topics and abstracts must be approved by the instructor.

The paper may include several trade and industry references but it must also include a set of references from academic sources to demonstrate a level of research into current thinking on supply chain management and issues. It is also recommended to follow American Psychological Association Publication Association ( <http://www.apa.org> ) and Modern Language Association guidelines ( <http://www.mla.org> or Gibaldi, MLA Style Manual, ISBN 0873526996 )

In the final class of the course, each student shall make a presentation of their final paper. The oral report should consist of a PowerPoint presentation of your work (providing enough detail about your work to make it coherent) in class. The emphasis should be on sharing your insights regarding what you have learned and its application to real world problems. Students should provide copies of the slides for other class members and the professor. The final paper should be submitted to the professor by the final class.

### Grading

Assignment	Grade Percent
Exercises and Case Study Critiques	30%
Mid-Term Exam	30%

<b>In Class Participation</b>	<b>10%</b>
<b>Final Presentation and Paper</b>	<b>30%</b>
<b>Total Grade</b>	<b>100%</b>

## Ethical Conduct

The following statement is printed in the Stevens Graduate Catalog and applies to all students taking Stevens courses, on and off campus.

“Cheating during in-class tests or take-home examinations or homework is, of course, illegal and immoral. A Graduate Academic Evaluation Board exists to investigate academic improprieties, conduct hearings, and determine any necessary actions. The term ‘academic impropriety’ is meant to include, but is not limited to, cheating on homework, during in-class or take home examinations and plagiarism.

Consequences of academic impropriety are severe, ranging from receiving an “F” in a course, to a warning from the Dean of the Graduate School, which becomes a part of the permanent student record, to expulsion.

*Reference: The Graduate Student Handbook, Academic Year 2003-2004 Stevens Institute of Technology, page 10.*

Consistent with the above statements, all homework exercises, tests and exams that are designated as individual assignments MUST contain the following signed statement before they can be accepted for grading.

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I pledge on my honor that I have not given or received any unauthorized assistance on this assignment/examination. I further pledge that I have not copied any material from a book, article, the Internet or any other source except where I have expressly cited the source.

Signature \_\_\_\_\_

Date: \_\_\_\_\_

Please note that assignments in this class may be submitted to [www.turnitin.com](http://www.turnitin.com), a web-based anti-plagiarism system, for an evaluation of their originality.

## Course Schedule

Session	Topic	Material Discussed
1	<ul style="list-style-type: none"> <li>• Introduction to Supply Chain Management Principles and Strategies</li> <li>• Customer Perspectives</li> </ul>	Review Syllabus Lecture 1 Chopra and Meindl: Chapters 1,2,3
2	<ul style="list-style-type: none"> <li>• Design of Supply Networks</li> <li>• Supply Chain Organizations</li> <li>• Product Lifecycles</li> </ul>	Lecture 2 Chopra and Meindl: Chapters 4,5,6
3	<ul style="list-style-type: none"> <li>• Case Study Review</li> </ul>	Case Studies No. 1 through 2
4	<ul style="list-style-type: none"> <li>• Supply Chain Forecasting</li> </ul>	Lecture 3 Chopra and Meindl: Chapters 7,8 9
5	<ul style="list-style-type: none"> <li>• Supply Chain Processes:</li> <li>• Procurement and Sourcing Management</li> </ul>	Lecture 4 Chopra and Meindl: Chapter 13
6	<ul style="list-style-type: none"> <li>• Class Exercise</li> </ul>	Class Exercise: Beer Game
7	<ul style="list-style-type: none"> <li>• Midterm Exam</li> </ul>	Midterm Exam
8	<ul style="list-style-type: none"> <li>• Case Study Review</li> </ul>	Case Studies No. 3 through 4
9	<ul style="list-style-type: none"> <li>• Supply Chain Processes:</li> <li>• Transportation and Distribution Management</li> </ul>	Lecture 5 Chopra and Meindl: Chapter 14
10	<ul style="list-style-type: none"> <li>• Inventory Management</li> <li>• Supply Chain Processes:</li> <li>• Manufacturing</li> </ul>	Lecture 6 Chopra and Meindl: Chapters 10,11,12
11	<ul style="list-style-type: none"> <li>• Supply Chain Coordination and Information Systems</li> </ul>	Lecture 7 Chopra and Meindl: Chapter 16,17
12	<ul style="list-style-type: none"> <li>• Case Study Review</li> </ul>	Case Studies No. 5 through 6
13	<ul style="list-style-type: none"> <li>• Final Project</li> </ul>	Student Final Presentations